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Unspoken Messages – Basque Arborglyphs: Methods for Recording and Documenting Arborglyphs on Department of Defense Land

Joxe Mallea-Olaetxe, PhD, and Judy A. Berryman, PhD

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FINAL REPORT

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By:

Joxe Mallea-Olaetxe, PhD

Judy A. Berryman, PhD

Prepared for:

Department of Defense Legacy Project

Prepared by:

engineering-environmental Management, Inc.
9449 Balboa Avenue, Suite 111
San Diego, CA 92123

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ABSTRACT

This study presents a thematic landscape methodology that will facilitate a programmatic approach to determining National Register of Historic Places (NRHP) eligibility for historic aspen tree carvings (arborglyphs) found on Department of Defense (DoD) properties. Key points include the development of a historic context, a computer/data retrieval system for recording and managing new and existing data, and preparation of an instructional video showing how to record and document individual arborglyphs. Although the focus for this project is on presenting new methods for recording tree carvings created by Basque shepherds, the techniques proposed can be used on all arborglyphs, regardless of origin or age. The proposed system was developed with the hope that it will be used on a range of federal properties, including U.S. Forest Service and Bureau of Land Management holdings, and by individual state historic preservation offices, resulting in a cohesive data documentation and retrieval data base for these important historic features.

What are arborglyphs? Why record them? What information do they contain? In the simplest form, arborglyphs are carvings left on the trunks of trees. These carvings are an idiosyncratic cultural phenomenon represented as semi-permanent messages left by people on suitable surfaces scattered over large grazing areas. In the case of arborglyphs, the altered surfaces are trees, creating an organic and perhaps even more temporary quality for these messages. The current study focuses on a particular subset of carvings—those created by Basque shepherds during their seasonal rounds throughout the west. The importance of these carvings is not only in the artistic and informational arenas, but in their relationship and representation of regional history and of the people who lived during this period. The drawings, dates, and writings left by the shepherds provide detailed and personal information that is generally absent in historic studies.

Basque carvings, associated groves, and camps are cultural resources protected under the National Historic Preservation Act and the Archaeological Resources Protection Act and as such are potentially eligible for nomination to the NRHP. This study provides a framework for evaluating the relative significance of individual trees, clusters, and entire groves and provides the basis for assessing the eligibility for inclusion in the National Register of Historic Places. This information is important because it supports the DoD efforts to comply with the National Historic Preservation Act and its implementing regulations that require government agencies to consider the impacts of its actions on properties that meet the criteria for inclusion in the NRHP. This study aids with this evaluation because it identifies historical trends and events that influenced the development of this particular type of cultural resource and it identifies the kinds of information that can be obtained from the recordings. The study also presents examples of style, type and methods of carving, and identifies the character-defining features that must be present for a DoD installation to have significance as a good example of its type.

For this report, a case study is used for arborglyphs found at the U.S. Marine Corps Bridgeport Mountain Warfare Training Center (Bridgeport, California). This facility contains the largest known concentration of Basque tree carvings in the United States and was used as a model for documenting and recording arborglyphs. The time period of interest is from the 1880s to the present day. The proposed methods will also be useful in recording any historic tree glyphs and culturally altered trees regardless of its age or condition. In addition to the Basque arborglyphs, the Bridgeport facility contains historic (older than 50 years) glyphs written by military personnel. Where present, the recording and documentation of glyphs created by military personnel will provide additional historical background for individual DoD facilities.

By recording and identifying these historic glyphs, we are bringing attention to a subject that has received limited study, although these carvings represent activities that were an integral part of the economic development of the American West. This study is an evaluation tool for the management of cultural

resources in compliance with federal laws and regulations. Furthermore, it helps comply with Section 110 of the NRHP, which requires federal agencies to identify and catalogue their cultural resources and assess them for NRHP-eligibility. By undertaking the steps defined here, the DoD will be taking a proactive approach to managing their cultural resources, which can minimize and even avoid delays for federally sponsored projects that require consultations with State Historic Preservation Officers (SHPOs) and other parties in compliance with Section 106, the National Environmental Policy Act (NEPA), and other related federal laws and regulations. As a result, the information provided in this report will help the DoD make informed decisions regarding cultural resources, specifically historic arborglyphs.

The research and conclusions presented in this document provide sufficient information to determine and identify the historic and cultural significance of arborglyphs found on individual installations. The existing glyphs represent the lives and times of common people, individuals who are often ignored in historical accounts. Through their tree carvings, Basque shepherds created a unique historic and artistic phenomenon. Arborglyphs constitute an individual and personalized record of human activities, akin to petroglyphs and pictographs. However, unlike the arborglyphs we do not understand the full or actual meaning of the petroglyphs and pictographs.

engineering-environmental Management, Inc. (e^2M) would like to acknowledge the military staff of the U.S. Marine Corps (USMC) Bridgeport Mountain Warfare Training Center; the Marines training at USMC Bridgeport Mountain Warfare Training Center for their understanding and willingness to participate in the video; Mr. David Scott, District Archaeologist Bridgeport Ranger District, Humboldt-Toiyabe National Forest; Ms. Melanie Bengtson, Environmental Coordinator USMC Bridgeport Mountain Warfare Training Facility; Mr. Eric Williams, Base Archaeologist at USMC Bridgeport Mountain Warfare Training Facility; personnel at University of Reno Basque Research Center; Mr. Fred Frampton, Archaeologist, Humboldt-Toiyabe National Forest, Mr. Michael Baldrica, Archaeologist, Tahoe National Forest, and Ms. Susan Lindstrum, Archaeologist, Truckee National Forest. Although Dr. Joxe Mallea-Olaetxe is a prime author of this study, without his enthusiasm, knowledge, patience, willingness to train new researchers and his more than 20-year effort to record, document, and educate the public and government agencies about the importance of Basque culture in America, this study would not have gotten “off the ground.”

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ACRONYMS AND ABBREVIATIONS

AFB	Air Force Base
ARPA	Archaeological
amsl	Above Mean Sea Level
ANG	Army National Guard
BLM	Bureau of Land Management
CFR	Code of Federal Regulations
DoD	Department of Defense
DPR	Department of Parks and Recreation
ft	Foot/Feet
GIS	Geographic Information System
GPS	Global Positioning System
IMACS	Intermountain Antiquities Computer System
NHPA	National Historic Preservation Act of 1966
NRHP	National Register of Historic Places
SHPO	State Historic Preservation Office(r)
TCP	Traditional Cultural Property
USAF	United States Air Force
USFS	United States Forest Service
USGS	United States Geological Survey
USMC	United States Marine Corps
UTM	Universal Transverse Mercator

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1. INTRODUCTION

This document has been developed by engineering-environmental Management, Inc. (e^2M) of San Diego, California, under the Legacy Resource Management Program overseen by the Department of Defense (DoD). The Legacy Program was established in 1990 by Public Law 101-511, Section 8120. The purpose of the program is to provide resources for protecting, enhancing, and conserving natural and cultural resources on DoD lands through stewardship, leadership, and partnership. The Legacy Program was written and submitted by Dr. Judy Berryman, e^2M, and Dr. Joxe Mallea-Olaetxe, University of Nevada, in Fiscal Year 2007.

The arborglyphs are as unique as they are numerous and they shed light on an aspect of animal husbandry and economic activity that traditional historic accounts ignore. Sheepherding was a fundamental economic activity during the settlement and development of the American West. Basque shepherds left an important and idiosyncratic record of their activities and personal identification information on the trees in the areas where they grazed their sheep. Basque tree carvings and the data they contain represent a roughly 150-year period of Basque contribution to the American West from the last decades of the nineteenth century through the 1970s. Basque sheepherders inscribed thousands of messages and representations on aspen trees in at least 10 states from California to Montana. These so-called arborglyphs are "on-site" observations of direct and reliable information on the people and their culture, the time period, the sheep industry, early ranching, and day-to-day herding activities. The carvings also include a wealth of historic information on the local conditions at the time of the carving with information about the range, pasture, rainfall, general weather conditions, social events, and economics, as well as personal observations, gossip, and frustrations.

Currently, there is no historic overview, context, or standard recording method or consistent means for evaluating historic arborglyphs found on local, state, and/or DoD facilities. Because of the complexity of recording and interpreting this cultural resource, existing field methods used for other historic and prehistoric resources do not adequately address the problems associated with recording and interpreting historic glyphs. Although existing forms such as the Department of Parks and Recreation (DPR) or Intermountain Antiquities Computer System (IMACS) Form provide sufficient information for obtaining a trinomial required at the state clearinghouses, they are not sufficient for either interpretation or recording the full diversity of information contained in the glyphs.

Aside from a study completed for the U.S. Marine Corps (USMC) Bridgeport Mountain Warfare Training Facility (Berryman et al. 2006, 2008; Berryman et al. 2005), none of the other DoD facilities have addressed the issue of recording and evaluating historic arborglyphs. The primary source of existing data has been derived from work completed by the U.S. Forest Service (USFS) and on private holdings. These studies and documents are useful on a case-by-case basis; however, there is not a comprehensive plan that addresses a standard method for recording and evaluating these resources. This study provides an innovative, programmatic approach that can be used for other DoD facilities as well as state and local agencies.

This project offers a contextual approach that has the potential to guide the development of installation-specific research designs, allowing various installations to programmatically address the issue of recording and documenting historic arborglyphs. The implementation of the suggested field and recording methods should result in a more effective management of this resource and will contribute to a better collective understanding of Basque carvings and of related resources. Unlike rock art, the trees containing the historic carvings cannot be preserved. Standard preservation plans and open space easements are not adequate in preserving the integrity of this resource; eventually the tree dies, taking with it irreplaceable historic "documents."

Many of the carvings are associated with events that have made a significant contribution to the broad patterns of our history (National Register Criterion A) and are associated with individuals who have played a pivotal role in shaping the history of sheepherding and the history of the American West (National Register Criterion B). Other carvings embody the distinctive characteristics of a type or period (National Register Criterion C). Additionally, diverse stands of carvings contain information that can yield information important to history (National Register Criterion D).

Additionally, many of the groves are eligible as a Rural Landscape and/or as Traditional Cultural Properties. Although Traditional Cultural Properties have been historically centered on Native American and prehistoric resources, the Basque arborglyphs meet and exceed the standards established for this criterion. As defined in National Register Bulletin Number 38, *Guidelines for Evaluating and Documenting Traditional Cultural Properties*, Traditional Cultural Properties can be a location where a community has traditionally carried out economic, artistic, or other cultural practices important in maintaining its historic identity. The definition of Traditional Cultural Properties can be applied to the return of the Basque herders to the same grazing areas year after year, leaving behind tree carvings documenting their stay. The mountains were home to the Basques, who before 1959 celebrated their picnics in sheep camps. These determinations, however, cannot be effectively made without an associated historic context and without a consistent method of interpreting and recording the data.

The historic context will facilitate a programmatic approach to determining National Register of Historic Places (NRHP) eligibility. The research questions addressed by this project are common to historic sites but have been consistently ignored for arborglyphs. This report identifies gaps in the current body of knowledge and serves as a foundation for addressing these deficiencies. Such an approach will facilitate more effective management of these resources by individual DoD facilities.

The NRHP evaluation guidelines used in this document include the National Register Bulletin Number 15, *How to Apply the National Register Criteria for Evaluation,* National Register Bulletin Number 30, *Guidelines for Evaluating and Documenting Rural Historic Landscapes*, National Register Bulletin Number 38, *Guidelines for Evaluating and Documenting Traditional Cultural Properties*, National Register Technical Bulletins 12 and 21, *Defining Boundaries for National Register Properties*, and National Register Bulletins16A and 16B, *Guidelines for Completing National Register of Historic Places Form*.

The extensive stands of Basque carvings found at the USMC Bridgeport Mountain Warfare Training Facility, Bridgeport California are used to illustrate the diversity of the resource, the type of information that can be potentially derived from the carvings, and how to evaluate the trees and/or stands of trees for National Register eligibility. The Bridgeport facility provides an excellent example of how the military can begin to address the issue of resource identification.

By establishing a consistent method for recording the information left behind as tree carvings, it is possible to gather and preserve historic data that has otherwise been ignored. As a cultural resource, unlike prehistoric rock art, prehistoric flake and pottery scatters, historic cemetery headstones, remnants of ranching homesteads and trash pits, arborglyphs are a three-dimensional (3-D) phenomenon carved on living tress, with a normal life span of less than 100 years. “Typical” cultural resources are impacted by natural events and historic use of the land; however, arborglyphs have the additional problem of being placed on a “non-permanent” medium. The task of documenting and recognizing this resource increases with the difficultly in site recognition and the lack of a consistent recording. Existing field methods are inadequate in identifying and documenting the historic data found within the carvings.

2. METHODS

2.1 Archival Research

The initial literature review included a synthesis of published cultural resource reports addressing tree carvings for DoD bases and facilities and a review of existing historic literature. In addition to the literature review, large-scale aerial maps were reviewed to determine where aspen groves are located in relation to military lands. By combining historic research with vegetation maps, it was possible to determine which DoD bases have the potential for containing Basque-related resources (Figure 2-1). A listing of the facilities examined for information potential is shown in Table 2-1. The examined criteria included the size of the installation (acreage), the presence/absence of large tracts of undeveloped land, elevation, recorded site information from the State Historic Preservation Office (SHPO) and/or other historic societies, and a review of historic accounts. When available, aerial photographs and large-scale maps (such as those found on GoogleEarth) were also reviewed. These large-scale aerials helped identify possible locations for stands of aspen trees.

Based on the initial review, other than the studies that have been completed for Bridgeport, there has been no cultural resources documentation of historic arborglyphs on other DoD bases. Aside from the limited reports and/or accounts at individual clearinghouses and SHPO offices, there is no compilation of existing Basque data on a state-by-state basis.

As shown in Table 2-1, the majority of the facilities are small training areas concentrated in California, Idaho, and Washington. Most of the listed installations lack large undeveloped tracts of land and those that have open land do not support aspen groves.

TABLE 2-1. LISTING OF DOD INSTALLATIONS IN THE WESTERN UNITED STATES

Installation Name	State	Branch of DoD	Evidence of Forest on Installation	Evidence of National Forest on/near Installation
USMC Air Ground Combat Center Twenty Nine Palms	CA	USMC	No	No
USMC Logistics Base Barstow			No	No
USMC Mountain Warfare Training Center			Yes	Humboldt-Toiyabe NF
Vandenberg AFB, Lompoc	CA	USAF	Yes	No
Edwards AFB, Kern County			No	No
Travis AFB, Fairfield			No	No
Los Angeles AFB, El Segundo (including Fort McArthur Military Reservation) San Pedro			No	No
Onizuka Air Force Station, Sunnyvale			No	No
Los Alamitos Army Airfield, Los Alamitos	CA	Army	No	No
Mather Army Air Support Facility, Sacramento			No	No
Fort Hunter Liggett, Jolon			No	Adjacent to Los Padres NF

TABLE 2-1. LISTING OF DOD INSTALLATIONS IN THE WESTERN UNITED STATES

Installation Name	State	Branch of DoD	Evidence of Forest on Installation	Evidence of National Forest on/near Installation
Roberts Army Airfield/Camp Roberts, San Miguel			No	No
Sacramento Army Air Support Facility, Sacramento			No	No
Sierra Army Depot			Possibly	Near Lassen
Stockton Army Airfield, Stockton			No	No
Luke Air Force Base, Litchfield Park	AZ	USMC	No	No
Davis-Monthan AFB, Tucson	AZ	USAF	No	No
Barry M. Goldwater Air Force Range			Possibly	Borders Coronado NF
Gila Bend Auxiliary Field, Gila Bend			No	No
Papago Army Airfield, Phoenix	AZ	Army	No	No
Libby Army Airfield, Fort Huachuca (Sierra Vista), Electronic Proving Ground			No	No
Yuma Proving Ground			Yes	Borders Coronado NF
Fallon Naval Air Station (including 5 bombing ranges), Fallon	NV		Possibly	No
Nellis AFB		Navy & USMC	Possibly	No
Creech AFB/Indian Springs Air Force Auxiliary Air Field, Indian Springs	NV	AF	No	No
Tonopah Test Range Airfield, Tonopah	NV	Bombing Ranges	Possibly	Humboldt-Toiyabe NF Nearby
Nevada Test Site			No	No
Fort Wingate	NM	Ranges	Possibly	Unknown
McGregor Range			No	No
Cannon AFB, Clovis	NM	USAF	No	No
Kirtland AFB, Albuquerque			No	No
Holloman AFB, Alamogordo			Yes	Lincoln NF Nearby
Stallion Army Airfield, Socorro	NM	Army	Possibly	Cibola NF Nearby
White Sands Missile Range/Naval Air Warfare Center (and Ranges)			No	No
Kingsley Field (and ANG Base), Klamath	OR	USAF	No	No

TABLE 2-1. LISTING OF DOD INSTALLATIONS IN THE WESTERN UNITED STATES

Installation Name	State	Branch of DoD	Evidence of Forest on Installation	Evidence of National Forest on/near Installation
Boardman Bombing Range	OR	Bombing Ranges	No	No
Group North Bend/Air Station North Bend	OR	USAF	No	No
Umatilla Chemical Depot	OR	Army	No	No
Whidbey Island Naval Air Station, Oak Harbor	WA	Navy	No	No
Kitsap Naval Base, Bremerton			No	No
Everett Naval Station, Everett			No	No
McChord AFB, Tacoma	WA	USMC	Yes	No
Fairchild AFB, Airway Heights	WA	USAF	No	No, but training occurs on 500,000 acres of USFS land
Fort Lewis (Gray Army Airfield), Tacoma			No	No
Malmstrom AFB	MT	USAF	No	No
Air National Guard Great Falls (IAP), Great Falls			No	No
Fort Harrison Army Airfield, Helena	MT	Army	Yes	Helena NF Nearby
Helena Army Airfield, Helena (RAP)			Yes	Helena NF Nearby
Fort Missoula (Army National Guard [ANG])			Yes	Lolo NF Nearby
Sgt. Ernest Veuve Hall/AMSA #74, Missoula, Army Reserve)			Yes	Lolo NF Nearby
Camp Guernsey	WY	ANG	Possible	No
Cheyenne Air National Guard Base, Cheyenne (MAP)	WY	USAF	No	No
AFB Francis E. Warren, Cheyenne			No	No
Mountain Home AFB Gunnery Range	ID	USAF	No	No
Saylor Creek Gunnery Range			No	No
Mountain Home AFB, Mountain Home			Possibly	No
Idaho Launch Complex	ID	Army	No	No
Gowen Air National Guard Base (Boise Air Terminal), Boise			No	No
Orchard Range TS Boise (ARNG), Boise			No	No
Buckley AFB	CO	USAF	No	No
Peterson AFB			No	No
Schreiver AFB			No	No
Cheyenne Mountain Complex			Yes	No

TABLE 2-1. LISTING OF DOD INSTALLATIONS IN THE WESTERN UNITED STATES

Installation Name	State	Branch of DoD	Evidence of Forest on Installation	Evidence of National Forest on/near Installation
Air Force Academy			Yes	Borders Pike NF
Fort Carson	CO	Army	Yes	No
Pinon Canyon Maneuver Site	CO		No	No
Hill AFB	UT	USAF	Yes	Wasatch-Cache NF Nearly
Hill AF Range	UT	USAF Range	Yes	Wasatch-Cache NF Nearly
Dugway Proving Ground	UT	Army	Yes	No
Tooele Army Depot			No	No

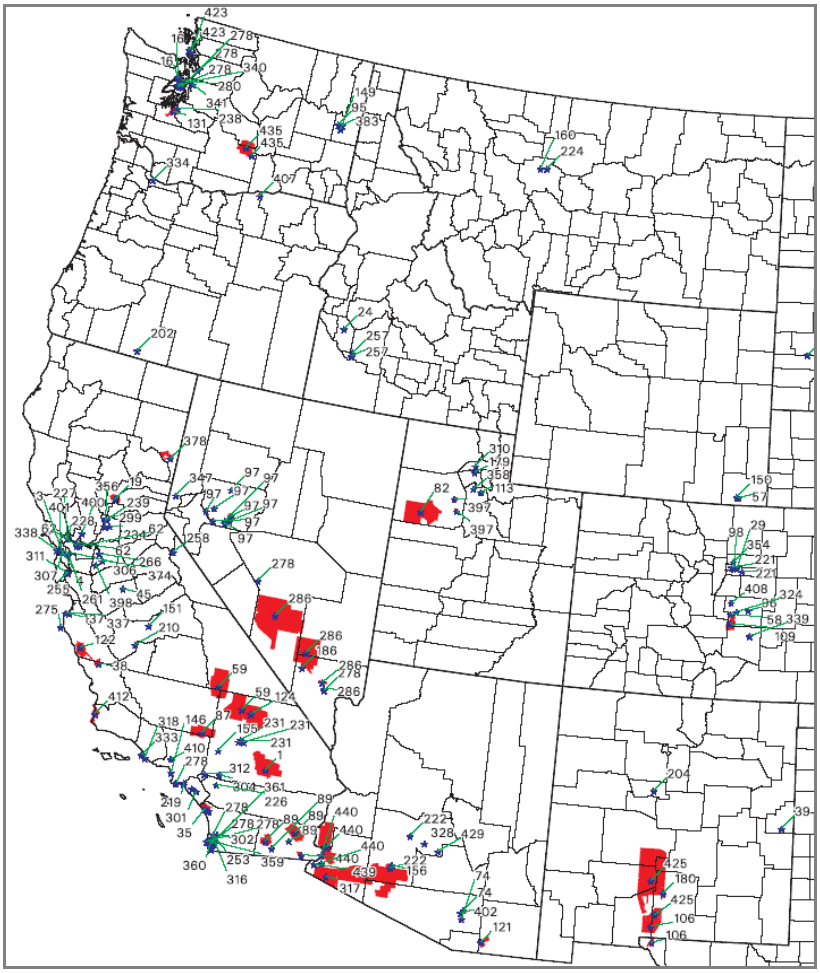


FIGURE 2-1. DISTRIBUTION OF DOD FACILITIES IN THE GREATER WEST

Using the information from various military Web sites, the initial research narrowed the list of possible resource areas to a handful of training areas. This list is based on the interpretation of photographic and geographic data. None of these facilities was physically inspected. Other installations in Idaho, Nevada, Montana, Oregon, and Washington are also expected to contain historic arborglyphs and associated Basque resources. In Washington, Basque herders were concentrated in the Yakima area; in Oregon, they were concentrated in the southeastern portion of the state. Although aspens are not associated with the Mountain Home AF Gunnery Range (Idaho), sheepherding was conducted in Dugway, Utah, where a number of sheep died from military testing of chemical warfare. When aspens were not available, the herders could carve on rocks. Although the current research focuses on aspen tree carvings, additional research should examine SHPO records documenting bread ovens, sheep camps, and other related historic features.

The USMC Mountain Warfare Training Facility Bridgeport, California, is the only facility that is both a large tract of land and surrounded by forest and traditional grazing areas. Because of existing historic documentation and extensive work completed by Dr. Mallea-Olaetxe for the USFS and USMC, data collected from the Mountain Warfare Training Facility was used in developing the GIS database system that is presented in this document.

2.2 Landscape Approach

This report presents a thematic landscape approach to the documentation and recording of historic arborglyphs. Although landscape archaeology as a theoretical orientation is recent, archaeologists have always been interested in how landforms were used through time and how they relate to cultural change. Landscape archaeology addresses the complex processes through which humans have, consciously and unconsciously, shaped the land around them (Bender 1993). Through time, humans have used various processes to alter the landscape for subsistence, economic, social, political, and religious purposes. In this perspective, landscape archaeology strives to address how landscapes have shaped prehistoric and cultural behavior (Knapp and Ashmore 1999). Alternatively, and of equal interest, is how cultures have shaped landscapes, in particular how cultural responses and behaviors vary across landscapes and what the determining factors are. The study of Basque sheepherders and the sites they created is an excellent example of how the landscape, in this case grazing lands, determined the intensity and duration of site creation and use.

Landscapes are perceived and shaped through symbolic and social processes that are guided by cultural views of ownership, memory, history, religion, and other factors (Bradley 1997). A historic pattern of use leaves a distinct signature. In the west, “tree carving” usually describes carving into the bark of aspen trees. Although limited in number, other trees such as spruce in Idaho, some pines in the Sierras, and eucalyptus in the California valleys were also carved. In conjunction with the need for a carving medium (aspens), sheepherding also required large grazing areas. It would be difficult to find Basque tree carvings and camps in regions that lacked both trees and grazing areas. The location or setting of the arborglyphs is also important. The herders selected specific trees and preferred location features. Landscape archaeology provides additional tools to examine these processes and thereby provide insights into historic landscapes. What constitutes a landscape depends on the particular research project. It could be a large area with several micro- and macro-econiches or a small, restricted geographic unit. The primary distinction between landscape archaeology and site-specific archaeology is that the former emphasizes the relationship between the archaeological data, cultural phenomena, and the regional environmental and cultural setting (Cherry et al. 1991).

Although a landscape approach to archaeological practice provides a regional perspective, it also presents a number of unique challenges. The most often-discussed challenge is the concept of what constitutes an archaeological site. In the case of the Basque arborglyphs, site boundary definition is difficult, as well as

determining how many trees constitute a site, and what elements are considered contributing factors to the definition of the site. In a landscape approach, individual sites (trees) become less important, and site boundaries are also relatively "unimportant." Instead of individual trees, the pattern in the use of the landscape is important and the areas between sites are of equal interest (Cherry et al. 1991). For the archaeologist and historian, the reality of sheepherding should guide the direction of the research. The study units should include the allotments and the drainages, which separated the allotments.

Defining site boundaries and extent with landscape archaeology also strengthens the concepts addressed in Bulletin Number 30, *Guidelines for Evaluating and Documenting Rural Historic Landscapes*, and National Register Bulletin Number 38, *Guidelines for Evaluating and Documenting Traditional Cultural Properties*. Traditional cultural values are often central to the way a community or group defines itself, and maintaining such values is often vital to maintaining the group's sense of identity and self respect. Traditional cultural properties are often difficult to recognize and may look like a mountain top, a lake, a cluster of trees, or a piece of a forest or grazing area. As defined in Bulletin 38, traditional cultural properties can be a location where a community has traditionally carried out economic, artistic, or other cultural practices important in maintaining its historic identity. As will be discussed, the Basque herders returned year after year to the same grazing areas and aspen groves to tend their sheep and leave individual histories and personal markers. Regardless of their birthplace, the traditional grazing areas were known and reused on a yearly basis.

Bulletin Number 30, documenting rural historic landscapes, can also be applied in evaluating stands of carved aspens. Although the landscape was not maintained in the sense of plantings and pruning, the trees were selected because of age, size, and position. Individual trees were visited and revisited through time by the same herder and other herders leaving their marks on the trees. Similar to a rural landscape, the carvings were not random, their position in the landscape was important, and there were rules regarding where you could leave a carving. Both concepts fit into the overall theoretical background provided by landscape archaeology.

2.3 Data Analysis

Archaeologically, the recording and documentation of corrals, sheep camps, rock markers, bread ovens and the like are fairly straight forward. Existing recording forms, such as those used in California (DPR) or those used in the Great Basin (IMACS) contain adequate detail to describe permanent structures such as camps and ovens. The recording and documentation of arborglyphs presents an unusual challenge in that they are an organic resource. The carvings are difficult to interpret (multiple languages), preserve, and manage. As the tree's girth grows, most carvings became harder to read; the older the tree, the harder it is to interpret and recognize . Unlike rock art, cemetery markers, pottery scatters, or other site types, carved trees have a limited life span; they continue to grow after the carvings are made, they can become diseased or damaged, and even if they remain healthy they eventually decay, erasing the information. The durability, or the length of time that a carving will be visible, depends on the size and shape of the scar, the tree species, and the local environmental conditions. As a physical artifact in the landscape, individual trees and carvings represent a biological and cultural archive that provide in some cases the exact time of site use and place-specific information. There is no way of knowing how many trees were originally carved; however, it has been estimated that over 70 percent of this resource has disappeared without any documentation (Mallea-Olaetxe 2008a:34).

In discussing recording methods, comparisons can be made between prehistoric rock art, historic arborglyphs, and modern graffiti. Rock art and modern graffiti are normally placed on semi-permanent materials such as rock, building materials, concrete, or stone, allowing for a longer life span of the message. Of the various graphic representations, prehistoric rock art and historic arborglyphs have the

most in common. Rock and arborglyphs are both "on-site" memories and both represent a paperless culture. It is widely believed that petroglyphs and pictographs are associated with activities that took place at the particular site where they were made. Similarly, the tree carvings reflect the sheepherder's lifestyle in the summer months, when he set up camp in an aspen grove. Just as petroglyphs are near Native American camps or ceremonial sites, tree carvings abound near sheep camps.

Although similarities between rock art and arborglyphs can be made, they are the products of people with very different cultures. Petroglyphs are not believed to contain "written" information. Both, however, are "outdoor arts" produced by people who lived in close contact with nature. Most of what scholars know about the meaning of rock art in the United States has been explained by the Native Americans themselves. The interpretation of rock art becomes difficult when hundreds of generations separate the maker from the reader. Tree-carving research has a clear advantage when it comes to interpretation. Many of the tree carvings contain names, dates, or other evidence of the carver and some of these people are still alive or have close living relatives.

Researchers have also suggested that most rock art has a supernatural or religious significance. In this aspect, petroglyphs and arborglyphs may have little in common. Based on the existing data, few of the recorded aspens appear to deal with the supernatural. Symbols, however, are found on both rocks and trees. The herders carved many stars (the most common symbol) and crosses. Rock art contains information on ceremonies and ritual; for example, many are associated with fertility rites (Grant 1967).

Arborglyphs are sometimes referred to as "tree graffiti." Many of the earlier USFS and Bureau of Land Management (BLM) archaeologists were hesitant to acknowledge that this resource was important enough to record. During the early periods of recording, there was considerable disparity from district to district. Some of them did more than just record the carvings; others ignored the resource and were hesitant to acknowledge their historic importance.

Modern graffiti and arborglyphs are sometimes associated as being similar in design and cause. Modern graffiti has its roots in the 1970s African-American hip-hop culture, in which graffiti "tags" (the term for the heavily stylized signatures and symbols that compose a lot of graffiti) were a form of vandalism and protest, a declaration of personal and cultural identity, and a way to reclaim neglected spaces (Patel 2007). Modern graffiti is written in public places for all to see; most of the arborglyphs are found in remote areas and were seen only by other herders. Unlike rock art and arborglyphs, modern graffiti is a one-dimensional, flat medium that is neither carved nor pecked into a surface. Most current graffiti has not met the 50-year criteria for cultural resources and has not been evaluated for National Register eligibility.

The recording of rock art has many of the same challenges that are found for arborglyphs. For both, the absence of reliable, objective recording means that many questions regarding the process of creating the petroglyphs and arborglyphs and their purpose cannot be addressed. In the case of rock art, the carvings may have been produced by specialist artists, or may have been a collaborative effort involving many members of the community; they might have been produced during a short period or gradually accumulated and evolved over many years with new generations adding their own style of motifs to more ancient designs. Little is known about the tools that were used to carve the rock; information about the size and nature of the peck marks may indicate whether the tools were stone or metal--having clear implications for dating. In contrast, the process for creating aspen arborglyphs is known, the time and event can be determined, and the message left behind interpreted.

A number of universities and research facilities are experimenting with the use of 3-D laser scanning for the recording of prehistoric rock carvings. The main objectives of these studies are to assess the reliability, accuracy, and precision of laser scanning and to evaluate its capacity to discover new carved motifs invisible to the naked eye (Wasklewicz et al. 2004; Diaz-Andreu et al. 2006). The technique

produces high-quality images which could potentially provide a level of objectivity, precision, and accuracy far beyond that achieved using traditional recording methods such as wax rubbings and scale drawings. Furthermore, 3-D laser scanning does not involve direct contact with the rock surface eliminating the preservation concerns raised by other techniques. The results obtained from the ongoing research may be of value in recording arborglyphs. Many of their research goals are similar to those proposed in this study and include determining techniques and tools used to create the petroglyphs, distinguishing natural from artificial markings, and detecting superimposition (phases of the carvings). Again, the advantage that tree carvings have over rock art is the common use of names and dates in tree carving. The database proposed for this study would also allow for comparisons between sites.

2.3.1 Standard Recording Forms (DPR and IMACS)

The main challenges in recording arborglyphs are time, the ability to read and interpret the glyphs, and the condition of the trees. Many of the trees, particularly the older aspens, are badly scarred, making it difficult to identify and interpret individual glyphs separate from natural damage. Other difficulties include the carver's skill and intent with many of the words being slang and/or misspelled. At times only a few letters remain or are legible from an original carving making interpretation even more difficult. The current recoding methods use field sketches or images taken with a single lens reflex (SLR) film camera. These two forms of recording are paper-dependent, time consuming, and do not adequately record the complexity and extent of the carvings. A paper record is needed for record-keeping and a hand-sketched map of the site, along with GPS map points, are necessary for SHPO records and for resource management.

The revised methods of recording proposed here have been developed based on known historical facts and sheepherder reality. Elaborate site maps are often an essential part of archaeology; however, numbering each individual tree within an aspen grove filled with tree carvings is not necessary. This cultural resource lends itself to a less rigid form of GPS recording:

- Most of the aspens are found alongside creeks and canyons—the herder took his charges up the canyon in the spring and down the same canyon in the fall.

- Sheep companies often retained forest leases unchanged for many years—it is more realistic to record an entire drainage as a historical unit or specific activity area.

- Based on traditional herding practices, when recording a grove or stand of trees, it is more efficient to begin at the bottom of a drainage and work uphill. The reasoning behind this is that the herders entered these groves at their lowest points and proceeded to higher country. The "good bye" messages are found all over; however, they are often concentrated at the bottom or lower points of the groves, possibly supporting this up-and-down movement pattern.

The problems with these existing methods of recording are that the data are not interchangeable, the data cannot be searched through a consistent database, and they lack detailed visual records of the carvings. The specific needs of recording arborglyphs, regardless of the content or extent, are not met by either the IMAC or the DPR system.

DPR forms consist of 12 separate forms: primary record, building structure/object form, archaeological site record, district record, linear record, milling record, rock art record, artifact record, photographic record, location map, sketch map, and a continuation sheet. There is no specific form for recording arborglyphs. Forms 523A (Primary Record), 523C (Archaeological Site Record), 523J (Location Map) and 523K (Sketch Map) are required regardless of the site type or time period.

The 'long-form' version of the IMACS site record form is the standard site form adopted by the principal federal agencies, and it is expected to be used by the SHPO. The IMACS system of recording prehistoric and historic sites does not have a form for arborglyphs. The glyphs are photographed with still cameras and hand sketched on paper, even though their meanings are often unknown. The existing recording methods rely heavily on paperwork, requiring one IMACS form for each recorded site or in this instance each tree, which could be as many as 80 trees or as few as 6. The IMACS guide contains instructions and computer codes, but it has not been updated since 1992 and has not been adapted to include aspen carvings.

IMACS forms are used in the following areas:

Utah: BLM, National Park Service, USFS administered lands, and state lands.

Idaho: BLM administered lands (except northern Idaho). All Region-Four National Forests (Payette, Boise, Salmon, Challis, Caribou, Sawtooth, and Targhee), and state lands.

Nevada: BLM and USFS administered lands, and Nevada Department of Highways lands/projects.

Wyoming: Targhee and Bridger-Teton National Forests and all BLM and National Park Service administered lands.

2.3.2 Use of a Digital Video Camera for Recording Arborglyphs

Recording and documenting fading arborglyphs is difficult. Not only is there a language problem (most are written in Basque and Spanish; Basque was forbidden in public schools), but growth of the individual trees has rendered many difficult to read. Revisions to the current inconsistent recording methods must be made in order to increase the type and amount of information that can be collected during a typical field visit and create a more reliable and accurate database. As stated earlier, the existing database is rapidly disappearing as a result of attrition, fire, development, modern management programs, and logging activity. With the destruction of aspens, any hope of recovering valuable historic data is gone. Since many of the larger stands are likely to be eligible for National Register nomination; loss of such information can create problems for installations that have not inventoried and assessed the condition of this resource group.

A camcorder or video/digital recorder is currently the most efficient tool to record arborglyphs. While video recording is not intended to replace traditional methods of high-quality still photographs or hand drawings in all cases, it does present an excellent augment and in some instances a replacement of these traditional methods. The use of video is more expeditious and infinitely more accurate than hand-sketching.

Video has a clear advantage over traditional still cameras in that the recorder can walk around the tree being recorded while making comments on camera. For example, if you are creating a record for a tree that says “Martin Orriaga 1906” and on the alternate side is a human figure, a video camera allows you to read the inscription and continue around the tree to show the engraving of the figure. While videotaping images you can add comments such as “Orriaga probably carved this figure of a man, which may be a self-portrait.” It is also possible to recite the letters that appear on a tree and insert notes or questions about some representations that may not be as clear so that these can be checked more carefully during a review of the video footage. Occasionally, two or more photographs of a tree or inscription are taken to document the inscription or elements of the carving. Matching these shot series can sometimes be difficult and portions may inadvertently be left out. With a video record the process of recording is continuous and the whole image and the relationships between and among the images are retained.

Video recording also allows for the most accurate recording as even an experienced illustrator can miss elements or inadvertently misrepresent elements. It may not be possible to match the accuracy of the video and the detail that a close-up image delivers with hand-drawn images and complete the recording process in an efficient manner. Video can document the original incision or cut and the expanded bark on either side of the cut, which can be misinterpreted to appear that the carver made parallel cuts. Video contains both image and sound, which allows you to explain simultaneously what you are viewing on the tree.

Because the location of the trees is important for federal managers, Universal Transverse Mercator (UTM) coordinates and mapping is still necessary (Figure 2-2). The video works in conjunction with text-based data and should be accompanied by high-resolution still photographs. This approach minimizes paperwork and maximizes field time. Video data can be directly transferred from a camcorder to a computer. As technology stands today, DVD is the most suitable medium to store and disseminate the graphic data regarding the glyphs. Digital and computer images have the advantage of lasting longer than traditional hand sketches and the images can be enhanced and adjusted in a myriad of ways. In addition, the images can be printed and transferred quickly and easily for a variety of uses. Digital media is also more cost-effective than photographs for both storage and processing.

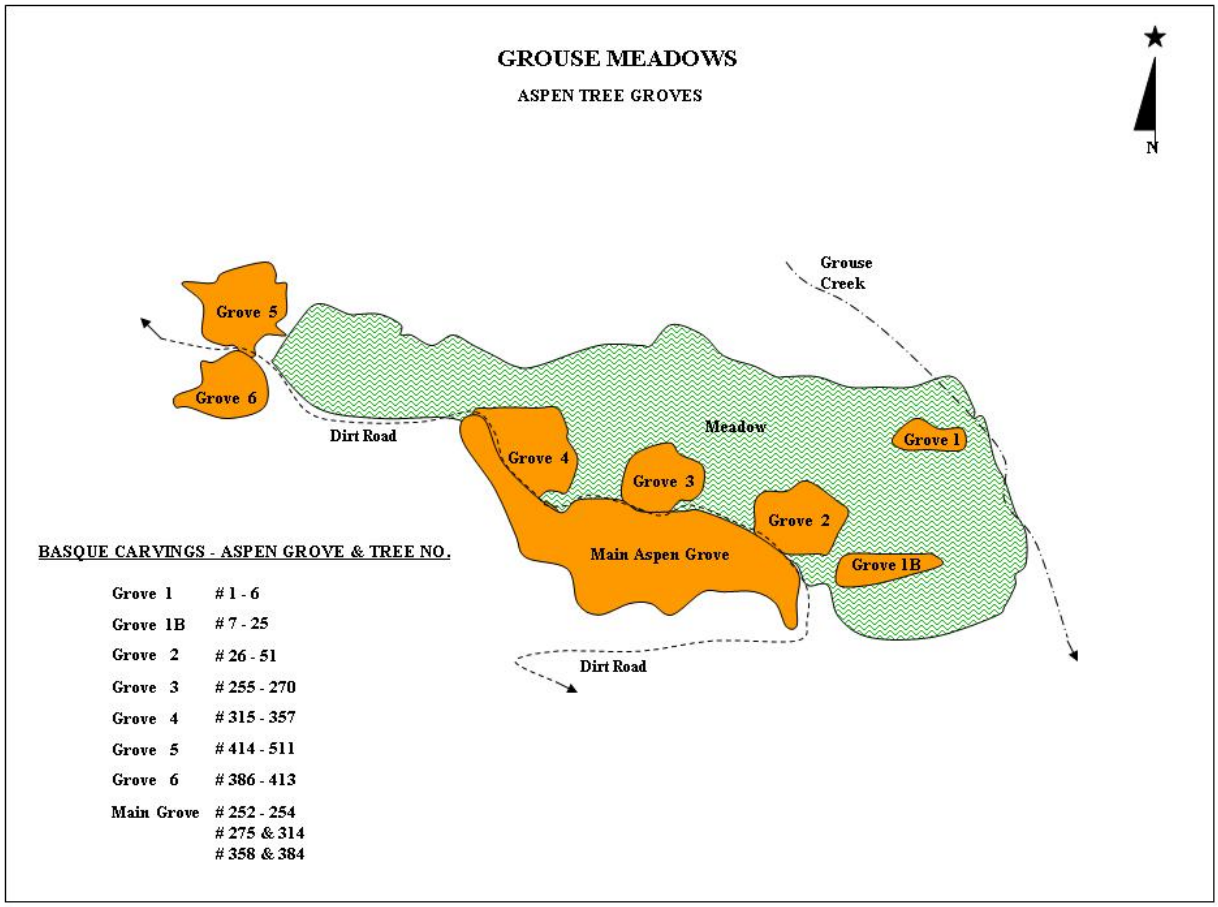


FIGURE 2-2. ARCHAEOLOGICAL SITE MAP FOR GROUSE MEADOWS ARBORGLYPHS

2.3.3 List of Recommended Collection Steps

The data needs to be collected in a systematic way. Based on prior experience, the following steps are recommended:

Begin recording at the bottom of the grove. Walk from one tree to the next nearest tree. Walk around every tree to avoid missing any carved surface. When proceeding from one tree to another, give the details necessary to help others locate each tree. Take the necessary UTM coordinates to establish a base map.

At the beginning of each day, record the date and the time on the videotape. For mapping purposes, also list the 7.5-minute topographic map, quad, section, and township. Take the necessary GPS points for specific location and for completing the DPR and/or IMACS forms.

Take a panoramic view of the overall setting and the specific grove.

As a rule during video recording, a minimum of two images of each subject should be completed. One should include the entire tree trunk with the surroundings, shot from 10 to 15 feet away from the subject. The second recording should be a close-up of the carving. It the carving extends around the circumference of the trunk, the video footage should be created by walking around the subject for a continuous record of the carving. Depending on the message and/or the type of carving a close-up image using the same panning technique should be made.

As you videotape, first read the message aloud in its original language, then translate it into English (if necessary, the translation can be done later in a lab situation). If the letters are not clear, move close to the tree, use your index finger, pencil, or a laser pointer and point out the individual letters, spelling words out loud as much as possible.

As you are videotaping the tree, make the necessary comments explaining the significance of the message by addressing such details as: is the carver's name new or a repeat, where his other carvings are located, is their data linking this carver to any others? Often, a tree has two or more carvings by different people, sometimes dated decades apart. This should be made clear by dealing with each carving separately.

When videotaping, use the manual focus whenever possible. Autofocus tends to flicker back and forth as it gets "distracted" by the leaves in the background. Manual focus can be sharper and using manual focus increases the life of the battery. A full day of recording will require extra batteries. Tripods are also necessary to steady the camera and allow smooth panning shots. Among the trees, shadows are a problem with both video and SLR digital cameras. Use of a neutral medium-dark filter to minimize the imbalance of light and dark can limit some of the distortion. Alternatively, you can carry a cloth to block the sun and even out the light exposure.

If one exposure is not sufficient to cover the whole tree/carving when taking still photographs (digital and film format), first attempt to include as much as possible of the total image with one shot or take several exposures to capture the image. If multiple shots are taken, be sure to overlap the exposures slightly and stand the same distance and angle from the tree for each shot. If you limit the photographs to one exposure, make sure to see the basics of the message in the viewfinder. In a common inscription consisting of a first and last name and a date, the crucial elements to capture are the last name and year.

Some herders were compulsive carvers who inscribed numerous, repetitious glyphs in the same grove. It is not necessary to record each of them. For example, if the carver inscribed his name and the same date on four adjacent trees, recording the clearest one is sufficient. Make a note, however, that multiple trees

with the same carvings exist. If the dates are different, videotape the entire inscription. If each of the four is difficult to read, videotape all of them.

2.3.4 Data Storage

Once the fieldwork is completed, the data can be analyzed and entered into a number of databases. For this study, a Microsoft Access file was developed. By using this program, various fields were defined and established, allowing for searches and queries of the database. The system allows comparisons between stands of trees, searches by date, carver, location, and other information considered important in determining site eligibility to the National Register. The current recording methods do not allow for easy comparisons between sites and makes queries by specific fields almost impossible.

The video and database are used in conjunction with the required site forms (such as the DPR and IMACS). These forms allow the researcher to get a state trinomial and record the resource with the state SHPO. The assigned site numbers are important in tracking geographic location and giving access to researchers on a regional basis. The completed video can be submitted to the SHPO office and kept at the local DoD facility. The first level of site recording is the completion of the fieldwork and submittal of the proper recording form to the SHPO office and to the appropriate DoD installation. Although the location of the resource is described and placed on a state grid system, the individual glyphs are rarely interpreted. Critical information regarding the carver, dates, and events are often ignored or missed due to language problems and the difficulty in interpreting the glyphs. The completion of individual DPR and/or IMACS forms places the resource in a geographic setting but does not accurately evaluate the historic significance.

The use of the video, in conjunction with the state forms, solves the data gap problems associated with poor recording methods. The video can be recorded and submitted for analysis at a later date. The information acquired during taping can be made available to experienced researchers capable of interpreting Basque arborglyphs. The individual videos can also be submitted to the University of Nevada, Basque Center for curation and later interpretation. Without the video documentation, the information potential for individual trees and clusters are severely limited. The uniqueness of this cultural resource is that it originates on organic medium trees. Unlike rock art, the trees will die, fall, and decay, destroying any hope of retrieving the historic information. Use of a video ensures that the data will be available for future research and comparative studies.

The aspen carvings reveal the most democratic and believable history ever written. Each herder became a historian and told his story in his own words. Tree data supplies unsuspected quantities of knowledge on the vanishing of the Old West and the wanderings of the Basque herders across the western landscape. The information carved by the herders was usually candid and to the point; the herders appear to be truthful in terms of their names, dates, and places they visited. The glyphs offer valuable insights into the experiences of the time, conditions of the land, and general economic trends of the period—information that is never consistently collected and recorded in government documents and historical accounts. The MS Access database is one way of representing the depth and breadth of the Basque sheepherding experience as written on aspen trees.

The database was built from the information gathered from field records, videotapes, and photographs. Most carvings have a format consisting of first name, last name, date, month, and year. Their variations, though numerous, contain repetitions. Many of the first names, for example, are Jean, Pierre, Baptiste, Batita, Martin, Francisco, Pedro, and Juan. This knowledge can be helpful in reading carvings that are distorted or lack one or more letters. The same method does not work as well with last names, which are more variable. When possible, it is helpful to interview old herders from an area and show them the videotapes. They can provide additional details about the carvers.

The use of MS Access allows an unlimited number of categories and entries. For this database, selected categories that are considered important for historic interpretation and queries were chosen. Every tree has an identification number. If more than one herder carved on the same tree, the carvings are differentiated by a letter, such as 143a, 143b, where 143 is the tree and a and b are the individual carvings. The defined categories are linked to the photographs and videos. This form of recording allows researchers to search by name, date, location, symbol, and by image. The one-dimensional approach of a standard SHPO form is eliminated by using both the MS Access database and the video record.

For this study, the following line items were defined by Mallea-Olaetxe (2008b):

Location: GPS coordinates with generalized location (include Township, Range, USGS Quad)

Tree: every tree is given an identification number; if more than one herder carved on the same tree, the carvings are differentiated by a letter (Tree 144a, 144b, 144c)

Recorded date: date when the fieldwork was conducted and by whom

Language: Basque, Spanish, broken English, French

Text Information

Names

Dates

Patriotic statements/Old Country memories

References to America/Americans

News on sheepherding

News on sheep bosses/wages

News on pasture/weather

Personal statement (loneliness, etc.)

Inter-personal matters among herders

Humor, swear words

The "goodbye" ritual

Female/erotic/sexual related messages

Old Country fiancé

Art

Self portraits

Human figures

Nudes

Erotic/sexual figures

Animal figures

Symbols (stars, *lauburu* (sun symbol), cross)

Religious symbol

Old Country home (farmhouse)

Unidentified figures

An example of the types of data that can be and was collected is shown below (Photographs 2-1 through 2-3).

PHOTOGRAPH 2-1. TREE #35

Tree Number	35
Carver's Last Name	ARRUPE
Tree Date	1939
American Date	6/1/1939
Text	1959 ARRUPE VIZCAYA
Comments	Carved like a signature. VIZCAYA (or BIZKAI) IS ONE OF THE SEVEN BASQUE HISTORICAL REGIONS.
Language	SPANISH

PHOTOGRAPH 2-2. TREE #354

Tree Number	354
Carver's Hometown	ZIBEROA
Text	ZER PINA ZER CHATO EDERRA HAU LEHEN NEURE MARIE (g)NUARTEKIN JUNE 65 GUSTURA NY(n)TZAN E(ne) SORTEAN 1965 HEMEN 1954 MAYTERIK GABE ZAHARTUZ GEROZ BERDYN
Comment	TRANSLATION, "What a fine place, what a beautiful castle this was before, with my little beloved. I was content here with my destiny, later growing old without a beloved."

PHOTOGRAPH 2-3. TREE #107

Tree Number	107
Carver's First Name	VALENTIN DOMINGO
Carver's Last Name	URIARTE AJURIA
Carver's Hometown	ARRIETA
Carver's Home Country	VIZCAYA
Tree Date	1970; 17-6-1977
American Date	1970; 6/17/1977
Text Classification	INRG
Text	VALENTIN URIARTE ARRIETA VIZKAYA 1970 AVINETA DOMINGO AJURIA 17-6-1977

As needed, additional fields can be added, depending on the complexity of the database. Once the trees are recorded with the camera, individuals can begin to interpret the glyphs in a non-field setting. All of the collected data and a copy of the videos are submitted to the local DoD manager and to the University of Nevada, Basque Department, for curation and interpretation. Recording the data with a video camera will effectively "preserve" the information on the trees. Once the trees have disappeared, as they all eventually will, the data remains available for research and comparative analysis.

The data recorded for 100 trees in the Grouse Meadows Complex was used in populating the proposed Access database. The data for the remaining trees in the Grouse Meadows Complex (in excess of 1,000) has not been entered into the Access database. This file is included with the final product submitted to the Legacy Resource Management Program. An instructional video was also submitted as part of the final product. The video illustrates the suggested field methods and provides a visual historic context and background for determining site significance.

Examples of the standard DPR and IMACS forms are found in Attachment A.

2.4 Report Preparation

This project was scaled to a regional level, and puts the USMC Mountain Warfare Training Center, Bridgeport, California, as the lead in a multi-agency consortium. This study is intended to provide the structure for DoD facilities and other federal agencies to study and evaluate historic arborglyphs and cultural resource sites associated with sheepherding, Basque herders, and related topics, and to provide the techniques to properly record them in a regionally consistent manner.

Analysis and report preparation included the following steps:

1. Develop a historic background context that summarizes what is known about Basque arborglyphs and associated resources.
2. Summarize existing data gaps in the research.
3. Discussion on how the tree carvings and associated resources fit into the NRHP evaluation process.
4. Present a review and recording; develop a cohesive method for future identification and recording of arborglyphs.
5. Develop a geographic information system (GIS) arborglyph management system. The system will be initially populated with the data gathered from the completed USMC Bridgeport Mountain Warfare Training Center Grouse Meadows study. The GIS will be made available for use by Department of Defense (DoD) facilities.
6. Develop and present a PowerPoint overview of the project at a national-level conference.
7. As the contractor, e²M furnished all labor, management, supervision, tools, materials, equipment, and transportation required to provide cultural resource evaluation and GIS data. Individuals assigned to the study meet the qualification requirements for professional education and experience as defined in 36 *Code of Federal Regulations* (CFR) 800 of the National Historic Preservation Act (NHPA). Professional services were performed by individuals meeting all applicable federal regulations and guidelines according to the *Secretary of the Interior's Professional Qualifications Standards* (*Federal Register Notice*, Vol. 48, No. 190, pp. 44738-44739, 19830). All work was conducted in accordance with applicable federal regulations and guidelines, including those found in the National Register Bulletins and Brochures listed below:

- Advisory Council on Historic Preservation and National Park Service: Identification of Historic Properties: A Decision making Guide for Managers

- National Park Service: Archaeology and Historic Preservation, Secretary of the Interior's Standards and Guidelines 48 FR 44716-42

- National Register Bulletin Number 15, How to Apply the National Register Criteria for Evaluation

- National Register Bulletin Number 30, Guidelines for Evaluating and Documenting Rural Historic Landscapes

- National Register Bulletin Number 38, Guidelines for Evaluating and Documenting Traditional Cultural Properties

- National Register Technical Bulletins 12 and 21, Defining Boundaries for National Register Properties

- National Register Bulletins16A and 16B, Guidelines for Completing National Register of Historic Places Form

A video accompanies the technical document, illustrating the major points presented in the document and visually illustrates the recording methods that are recommended. This video can be used by any DoD facility for educational purposes. The final document will be posted on the Marine Corps Region West website, submitted to the appropriate SHPO, and posted on DENIX.

3. HISTORIC CONTEXT

3.1 Introduction

Historic context is a body of information about historic properties organized by theme, geographic area, and time period. A single historic context describes one or more of the important aspects of the historic development of an area by relating to history, architecture, archaeology, and culture. Historic contexts can assist in making National Register eligibility determinations of sites, buildings and features and can provide information for a National Register nomination, a Section 106 review of a project report, a county or regional survey, or a thematic study. A context may be based on:

- One or a series of events or activities;
- Patterns of community development;
- Associations with the life of a person or group of persons who influenced the destiny and character of a region or a stage of physical development;
- Evolution of a building form and architectural style;
- Evolution of an art form;
- Use of a material and method of construction that helped shape the historic identity of a community;
- Research topic or site type that will expand our knowledge and understanding of an area's development, past cultural affiliations, and human activities and interaction where written records are lacking.

The importance of consistently recording Basque carvings may be best understood within the framework of a historic context. This context is based on a series of events and activities (yearly trips to the high country for grazing), evolution of an art form (arborglyphs), use of a material and method of construction that helped shape the historic identity of a community (distinctive tree carvings), and a research topic or site type that will expand our knowledge and understanding of an area's development and past and on-going cultural affiliations (the Basque community).

Why is the recording of arborglyphs important? The information provided in these carvings sheds light on a specific group or people during a specific time period and provides documentation of an often neglected element of history—the individual. The medium on which this record was created exists for a short period of time and has little chance of being preserved in archives such as published media.

A discussion of the existing database is provided below, followed with a generalized historic context and a more specific one for the Bridgeport study area. In general, there is no specific context for individual states or other more localized geographic areas. Much of the historic background is based on a report written by Dr. Mallea-Olaetxe for the Legacy Project (The unedited text is provided as Attachment B).

3.2 The Existing Literature and Database

The initial accounts and descriptions of aspen carvings were written by non-Basques attracted to the topic by the artistic value. The first non-sheepherders to become interested in the arborglyphs were generally

outdoorsmen and hikers. Their published articles were based on information gathered during weekend hikes and photographs. Some were impressed with the "Picassoesque" quality of the tree carvings and published short articles in newspapers and magazines for general consumption (Mallea-Olaetxe 2008a:3). Many of the earlier researchers made little effort to frame the data within a regional or larger history of the American West. The early studies also failed to record their results in a format that could be used by other researchers.

Aside from the substantial database archived at the University of Reno, Basque Department, there are approximately 40 publications on the subject, most of them short articles accompanied by photographs. Few of these authors stopped to read the inscriptions, probably because they did not understand them. In 1969, Jan Harold Brunvand and John C. Abramson of Utah published a more substantial study, but they still regarded the carvings as "doodling." In 1970, the *Museum of New Mexico Press* published the first book on the subject, which contains only four pages of text. It is devoted to art rather than history, and 61 large photographs of carvings in New Mexico's Carson National Forest fill the book. About the same time, Richard Lane was doing research on Elko, Nevada sheepherders. In Lane's article, "Basque Tree Carvings," published in 1971, he identified some of the same topics others before him had, such as ethnic identity, towns and provinces, human figures, and stars (Lane 1971). He wrote that the carvings were "only a small part of the necessary evidence" and he did not use any of it in his dissertation.

In the 1970s, David Beesley and Michael Claytor covered 30 groves in several eastern California counties and published the most detailed study (Beesley and Claytor 1978). As with the earlier reports, their document focused on the "art" rather than interpretation or historic importance. Also noteworthy is the work of James Snyder, historian of the Yosemite National Park in California (Snyder et al. 1989). He and his collaborators recorded over 1,000 trail blazes within the park, which consisted mainly of initials and dates, but rarely full Basque names and statements prevalent elsewhere. He also recorded early dates carved on pine trees, some going as far back as the 1850s.

The majority of recent studies have been conducted by archaeologists and historians in two federal agencies—the U.S. Forest Service and the Bureau of Land Management. Historically, individual USFS and BLM offices considered the tree carvings as a "defacement" of the trees and regarded them as a nuisance (Mallea-Olaetxe 2008a). This view has changed with an understanding of federal law and a growing awareness of the historic importance of these carvings. As a result of an absence of recording or poor documentation, a large number of the inscriptions and their historic meaning are lost. It has been estimated that over 70 percent of the carved trees have disappeared, making it even more important to record the remaining stands. Although Eldorado National Forest recorded some carvings in the 1970s and Humboldt-Toiyabe National Forest in the 1980s, consistent attempts to record the glyphs did not occur until the late 1980s and early 1990s. Although these agencies lacked trained personnel with knowledge of Basque, Spanish, and/French, they did record the encountered glyphs by photographing the carvings and reading as many as they could. The USFS and BLM offices were staffed mostly by archaeologists (and occasionally historians) who adopted archaeological methods, procedures, and standardized archaeology forms to record arborglyphs. Some federal districts began recording arborglyphs in the 1970s (in Wyoming and California) and in some states, later. Generally speaking, federal districts in other western states have conducted less arborglyph research than California and Nevada. Idaho started recording aspen carvings only a few years ago and the total number is currently at approximately 1,000 arborglyphs.

In addition, USFS archaeologists and historians in several districts throughout the west have made special efforts to record the carvings. Linda Farnsworth, the archaeologist of the Cocomino National Forest, Flagstaff District, Arizona, began documenting the arborglyphs in the San Francisco Peak area in 1996, and, working with senior volunteers of the Elderhostel Program, recorded more than 2,000 carvings. The San Juan Mountains of Durango (Colorado) is another area where the carvings have been recorded by the USFS and by collaborating volunteers. In Wyoming, SHPO receives arborglyph data recorded in the state

and enters them into a general computer database. The Center for Basque Studies at the University of Nevada, Reno has been the leading institution supporting research on arborglyphs, and since 1988 over 25,000 records of aspen carvings in video form and still photographs have been collected by Dr. Mallea-Olaetxe. In 2000, the *University of Nevada Press* published the results of these investigations, which is the first systematic and comprehensive study of the resource (Mallea-Olaetxe 2004). Aside from the research conducted by Dr. Mallea-Olaetxe and several USFS and BLM archaeologists, the remaining information on glyphs have been collected by a number of avocationalists, hikers, and campers.

Arborglyphs have been recorded in parts of Nevada and California, the Wasatch Mountains of Utah, northern Arizona, southern Colorado, Tahoe National Forest, Plumas National Forest, Modoc National Forest, Yosemite National Park, Eldorado National Forest, Humboldt-Toiyabe National Forest (Bridgeport), Steens Mountain (southeastern Oregon), and Columbia Basin (Elko County, Nevada). Limited attempts to synthesize the existing data for USFS and BLM lands are represented by the use of IMACS. The data forms are used in Nevada, Idaho, and Utah, while California uses its own database. In addition to these forms, the Basque Museum in Boise and the Basque Department at the University of Nevada, Reno, are developing their own arborglyph database.

The data collected from the USMC Mountain Warfare Training Center (Bridgeport) represents the first concentrated effort to record Basque arborglyphs and resources on a DoD facility. Because of this, the large amount of data collected and analyzed from the facility was used as a case study. The Bridgeport study focused on two large meadows, Grouse Meadows and Mill Creek. Over 1,000 individual glyphs were recorded in the Grouse Meadows site area, representing carvings dating from 1888 to the 1940s, created by 75 individual herders. The Mill Creek site area has more than 1,500 individual glyphs with dates ranging from the 1890s through the present day. Two technical survey reports were written for these study areas (Mallea-Olaetxe 2004 and 2005). The following is derived from Dr. Mallea-Olaetxe extensive research into the Basque immigration into the U.S.

3.3 National Historic Context of the Basque Movement into the United States

3.3.1 Sheepherding

The Basque are from the Pyrenees Mountains of Western Europe (Figure 3-1). The Basques, who call themselves *Euskaldunak*, primarily entered the United States during the California gold rush. Historically, many herders arrived in California directly from the Pyrenees. The Basques are one of the smallest minorities in the United States and were not actively documented until the 1970s, with early works by the University of Nevada's Basque Studies program. Basque immigrants amounted to less than one percent of all European colonists, but their influence can be seen in the many last names that are common today, such as (Spanish spelling) Garcia, Ochoa, Aguirre, Echeverria, Archuleta, Ibarra, Sanchez, Anza, Lopez, Vizcaino, Uribe, Mendoza, Velasco/Velasquez, Guevara, and dozens of others. These surnames are Basque in origin, as were five governors of Alta California under Spain and Mexico. Although this study places an emphasis on the contributions made by Basque sheepherders, not all Basque immigrants were sheepherders and many made important contributions to European and American history. Today there are about 65,000 people in the U.S. who consider themselves Basque or Basque American.

FIGURE 3-1. LOCATION OF THE BASQUE REGION

In the 1840s, many Basque immigrants left their homeland and settled in Argentina and Paraguay where they established themselves in sheepherding and tending livestock (Mallea-Olaetxe 2000; McCullough 1945). In 1850, Basque immigrants left Argentina bound for San Francisco as news of gold strikes in California reached South America. Basque immigration had a direct link to economic, political, and cultural conditions in the Basque country, as well as to the growth of the sheep industry in the Pacific Northwest. The mountainous terrain in the Basque Provinces limited agricultural and farming potential, and Basque inheritance customs usually favored the eldest male, encouraging other children to seek a livelihood elsewhere.

Basques in California soon discovered that competition from hundreds of miners of different nationalities and anti-foreigner sentiment of American miners limited their chances for striking it rich. By the 1860s, Basques began to find work herding sheep and cattle and within a few decades, they dominated this work in southern California and the San Joaquin Valley. Expansion of the sheep and cattle industries coincided with the growth of mining centers, and the Basque herders soon followed the trek of miners from

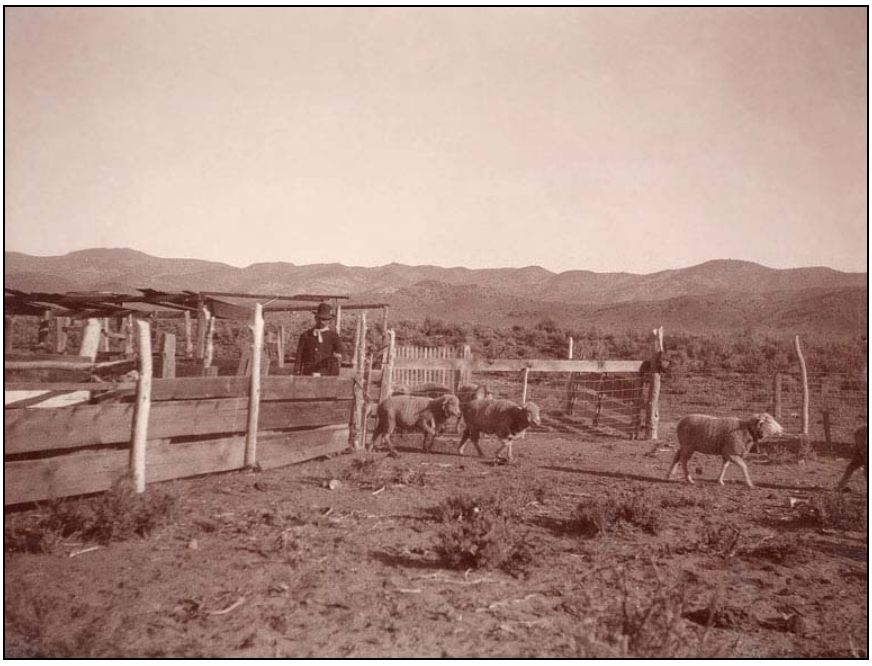
California to northeastern Nevada, southeastern Oregon, and southwestern Idaho (Photographs 3-1 and 3-2).

The original Basque immigrants knew little about America or the way sheep were herded in the U.S. (R. Laxalt in Mallea-Olaetxe 2000):

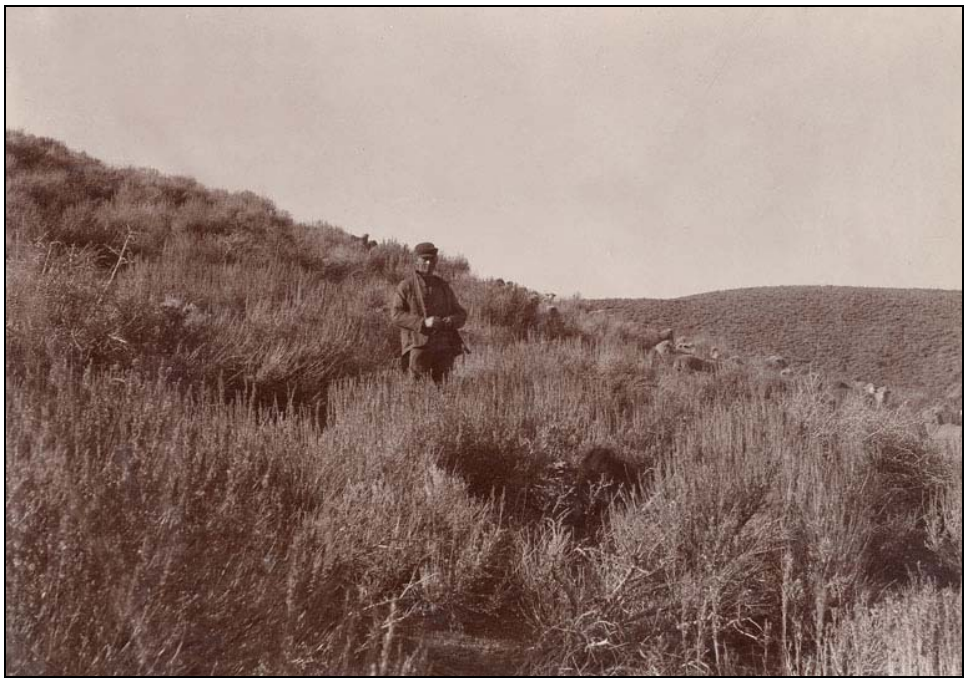
> In them days, we no sooner got off the train--we found ourselves in the desert. We had our provisions, or bedroll, a carbine, strong walking shoes, an American hat, a burro and a dog. And, oh, yes, 3,000 sheep. The boss would take a stick, and looking at the miserable desert stretching out there forever, he would scratch a map on the ground. To show where the water was, where the good feed was. Then you just moved out…. In a year we would walk thousands of miles.

It would not be an exaggeration to say that these owners were taking a huge risk by putting 3,000 ewes in the hands of a virtual stranger.

The Basque presence was most strongly felt in the West, in particular in Idaho, Nevada, and California, but even there they were the least known minority group because of their profession. California may have been an exception because Basques were there before 1848 and they knew the Spanish language, which in the early decades of the Anglo takeover was the dominant language. Most other immigrant groups settled in towns and cities, while the nature of sheepherding isolated Basque herders from communities and population centers.



PHOTOGRAPH 3-1. BASQUE SHEEPHERDER (1880-1920S)
(SOURCE: UNIVERSITY OF NEVADA, SPECIAL COLLECTIONS, PHOTOGRAPH P1984-27-16)



PHOTOGRAPH 3-2. EARLY 1900S BASQUE SHEEPHERDER (SOURCE: UNIVERSITY OF NEVADA, SPECIAL COLLECTIONS, PHOTOGRAPH P1984-27-93)

The sheep industry in Idaho expanded considerably during the last two decades of the nineteenth century (Bieder 1957; Douglass and Bilbao 1975). The industry had difficulty finding sheepherders who could withstand the demanding and lonely nature of the work, and the industry soon turned to Basque immigrants. Early settlers Juan Achabal and Jose Bengoechea, who were among the first of their countrymen to prosper in the sheep industry in the Columbia River Basin, facilitated the immigration of relatives and friends, who soon joined them to try their fortunes herding sheep. Basque immigration to the Idaho region peaked in the years between 1900 and 1920. Most Basque immigrants who came to Idaho and Oregon were from the Spanish province of Bizkaia. Most were men who were either single or married and came without their families. Some women joined husbands to work in agriculture, and some families and single women came to towns and cities to run boarding houses and other businesses for the Basque immigrant population.

Most came with the intention of staying in the United States just long enough to earn and save enough money to return to the Basque country and buy a business or a farm and live with their families. For many, however, the dream of striking it rich in the Promised Land never came true. Many never earned or accumulated enough money to return to their homeland and live the comfortable lives they had planned. Basque sheepherders earned between 30 and 40 dollars a month plus room and board. This was substantially more than their potential wages in the Basque country. The herders also had to account for lost sheep to his employer, a responsibility made especially difficult due to the threat of predators and hostile cattle ranchers.

Many Basque sheepherders moved to other types of work as soon as they could, due to the demanding conditions of herding. They found work as ranch workers and in lumber mills and mines. Others found jobs in the city or started their own businesses, such as boarding houses. Many even closer to the Mountain Warfare Training Center area, like Yparraguirre, Borda, Laxalt, Chango, Maizterrena,

Mendeguia, and Landa, started their own herds and some became prominent in the sheep industry. Juan Achabal, Jose Navarro, Jose Bengoechea, and others were very successful and soon had their own ranches in southern Idaho and in Jordan Valley in southeastern Oregon. By 1920, John Archabal (previously Juan Achabal) was one of the wealthiest men in Idaho and owned one of the largest herds in the sheep industry.

Basque boarding houses emerged to cater to the needs of sheepherders providing both a sense of family and community. Basque boarding houses were considered by many to be "a home away from home" and a social center for the Basque immigrant community (Echeverria 1999). The herding cycle brought herders down from the mountain grazing zones to the valleys during the winter. The boarding houses filled with herders starved for the company of others who spoke the same language and shared the same customs. Many boarding houses, which often recruited young women employees from the Basque homeland, became places where many sheepherders met and married their future wives. Basque boarding houses also served as support centers for immigrants, who often arrived with little money. Boarding houses were the first point of contact, a temporary residence, for new arrivals until they found employment. Proprietors often extended credit for room, board, work clothing, and equipment to these new arrivals. Boarding houses also often served the role of hospitals; they were places where ill or injured sheepherders could stay, on credit if necessary, until they recovered fully.

The daily and seasonal routines of sheepherders in a range sheep operation varied little throughout the Great Basin. Each cycle began by driving the sheep to spring lambing grounds. The ewes were sheared (the wool fleece shaved off) after the birth of the lambs. The lambing grounds were chosen for the protection they afforded from the prevailing winds and for plentiful grass and water. Some sheep outfits built wooden buildings called "lambing sheds" to protect the newborn lambs from the elements. After all the lambs were born, they were processed. Male lambs were castrated; all the lamb's tails were "docked" (bobbed) for cleanliness, the lambs were ear-marked, and the ewes and lambs were marked with paint using the owner's brand. After lambing, the herders set off on the trail with their ewes and lambs headed for the mountains, moving up from the sagebrush flats, through juniper foothills, into the aspen–lined creeks of the mountains for the summer. All these movements were made slowly because the herd grazed along the trail. Ten to twelve miles in a day was a big day trailing sheep.

During July and August, sheep left their bed ground on an open hillside around sunrise to begin grazing; the herder left his camp long before daylight to check on his herd. With so many animals to track over unrestricted open space, black sheep were used as markers. The herder counted the black sheep in the group, with the number varying between one black sheep per 50 or 100 animals. If all the black sheep were accounted for, the herd was believed to be intact. If a black sheep was missing the herder and his dogs would search for the missing black sheep and the other sheep who might have wandered off with this animal. Bells placed around the neck of some older ewes were also used to help keep track of the herd.

Sheep typically graze downhill toward water, drink, and find shade during the heat of the day. After the temperature dropped, the animals graze uphill until dark. The herder and his dogs would position the band on an open hillside for the night, then head for his tent in the dark or stay with his herd in his bedroll with his rifle and dogs. This was done particularly if coyotes or mountain lions were killing sheep. Sheepherding was a seven-day a week job. Sheep were moved to fresh grazing every day or two (Mallea-Olaetxe 2000).

During the fall, herders pointed their herds out of the mountains towards the desert. Generally, two summer herds would merge and aging ewes and lambs were sorted off and sent to market. With the size of the herds reduced, some of the herders would go to town to spend the winter. The remaining herders headed their animals towards the winter range, which was sometimes hundreds of miles from the summer range. On the trip to the winter range and during the winter months, the herders lived in sheepwagons

(Figure 3-3). The sheepwagon, a forerunner of the modern travel trailer, is a camp on wheels with beds, a table, and a wood stove. It was pulled, in the old days, by a team of horses and later by a pick-up truck. During this time, two herders sometimes shared a camp. One would drive the team or pick-up pulling the sheep camp; the other would ride his horse and move the sheep, with the help of his dogs. The highlight of sheepherding came at the end of each summer, when lambs were sold and the owner found out if he or she made any money for that year. Often, that is when herders were paid.

PHOTOGRAPH 3-3. BASQUE SHEEPHERDER JOSE ERQUIAGA, CIRCA 1920S (SOURCE: IDAHO STATE MUSEUM, IMAGE 72-89-1)

Until the Great Depression, sheep ranching was big business in the western United States (sheep provide meat and wool) and was controlled by the federal government. The dry conditions of the western range are well suited for the wandering instinct of sheep. In the 1860s, sheep production in California was over six million head, larger than cattle production. By the early 1900s, rangelands of Idaho, Utah, Wyoming, Montana, New Mexico, and Colorado supported millions of sheep. Elko County, when there were more than one million sheep in Nevada, had the largest concentration of Basque sheepherders in the United States.

Although historical accounts note that many or most of the sheep operators in the West went out of business during the Depression of the 1930s, evidence from tree carvings suggests a different scenario. Records for Nevada indicate that in the early 1930s there may have been as many as two million sheep in the state. The number of herders who continued carving their names in the 1930s suggests that sheepherding did not disappear with the closing of the banks and other financial institutions. During the Depression, sheep numbers dwindled but sheep did not disappear. Mostly they changed hands--since few people had cash, most animals ended up in the hands of the bank and bankers became the sheep bosses. Because the banks “owned” so many sheep, they began to pay higher wages. The standard pay prior to the Depression was around $30/month; during the Depression, many herders received up to $50/month

(Mallea-Olaetxe 2000:46). One of the carvings left by Frank Rodriguez in the Peavine area (Nevada) shared the message "Long live the Depression of 1932."

By the late 1800s, the Basque were regarded as the sheepherders of the American West. Much of their early success as herders can be attributed to the unregulated ranges that were available for grazing. The value of sheep fluctuated according to the market, but with an estimate of $5 per head, an average herd was valued at approximately $10,000. In part, the success was due to the number of available range acres. Extensive logging during the Gold Rush left many areas without trees and available as open range. More importantly, when the sheepherders first arrived in many areas, the land was sparsely settled and the herders could run their herds unchallenged.

The era of unregulated range was first affected by the creation of the USFS in 1905. This department took over management of much of the high country, including many former grazing areas. In addition, the use of public lands for grazing was almost eliminated with the passage of the Taylor Grazing Act in 1935. The Taylor Grazing Act denied access to public lands for grazing by operators who did not own deeded private property. In Arizona, the 1921 Alien Land Act further stipulated that only citizens or aliens eligible for citizenship could own real property. Basque herders circumvented these laws by forming sheep partnerships using the names of those who had obtained citizenship and who acted as trustees on behalf of various partners.

During and after the Second World War, there was an agricultural labor shortage and sheepherders were needed. Basque herders came to America on contracts set up by the Western Range Association and the U. S. Immigration Service. The herders came to work on sheep contracts that stipulated they must work with sheep for three years once they reached the United States and then return to their homeland. Some would sign up for a second or third tour. In the early years, before strict immigration laws were enacted, many herders came and stayed in the United States obtaining American citizenship and becoming sheep owners and businessmen.

Once the sheepherder's debt was paid, many left the sheep business and looked for other employment closer to the cities, in construction, farming, and any other field that allowed them a more fulfilling lifestyle (Bieter and Bieter 2000). Senators from several western states passed legislation giving permanent residency to Basques who had illegally entered the United States, in hopes of luring them back to the sheep industry. In 1952, Patrick McCarran, the U.S. Senator from Nevada and the Congressional Representative of Nevada, Walter Baring, worked together to pass legislation known as the "Sheepherder Bills." These laws brought about changes to immigration laws that allowed skilled laborers to enter the country if employers specified that a job could not be filled by anyone in the United States. Sheep industry employers argued that no one could perform the sheepherding tasks the way that the Basque had and could, and that they needed to facilitate the entry of Basque workers for the sheep industry. The Basque herders were allowed three-year contracts, which were renewable (Douglas 1989).

During the 1960s, sheepherders were paid an average of $200 per month for inexperienced and $300 for experienced workers. In 1966, there were approximately 1,200 Basque herders working in the U.S. and by 1976 there were only 106 Basques with sheepherding contracts. By the 1970s, most second and third generation Basques had moved into different industries, occupations, and professions. Today, the majority of the sheepherders come from South American countries, primarily Peru and Chile.

3.3.2 The Practice of Aspen Carving

Based on observations of many carvings, it appears that the sheepherder's primary purpose was to carve his name and a corresponding date. The carvings are also important geographical markers such that mapping the locations of the carvings allows an analyst to document the duration, location, and time when

various areas were used for grazing. Arborglyphs represent the limited body of direct evidence of Basque sheepherding activity. Other evidence includes sheep camps, corrals, rock markers, bread ovens, and seasonal camps.

In the West, "tree carving" usually describes carving or cutting into the bark of aspen trees, although other trees can be used (Photographs 3-4 and 3-5). Basque herders carved almost exclusively into the bark of aspen trees. Aspens grow in the western U.S. at higher elevations, primarily between 6,500 and 10,000 feet, in high plateau and alpine habitats. Aspens have the widest distribution of any tree species in North America, ranging from Alaska to eastern Canada and as far south as Mexico (Little 1971, DeByle and Winokur 1985). The trees find their southern limit in Mexico's Sierra Madre Mountains. In the West, aspen commonly grow at elevations above 5,000 feet. Idaho, Colorado, and Montana have some of the largest aspen forests; Nevada and California the smallest (Shaffer 1999).

PHOTOGRAPH 3-4. ASPEN GROVE, USMC BRIDGEPORT MOUNTAIN WARFARETRAINING CENTER

PHOTOGRAPH 3-5. ASPEN GROVE, USMC BRIDGEPORT MOUNTAIN WARFARE TRAINING CENTER; CARVED ASPEN READY TO FALL

Aspens stand between 40 and 70 feet in height and have a smooth white trunk that can be 1 to 2 feet in diameter. The tree is deciduous, with leaves that are rounded and shine bright green until they turn yellow in the fall. Two-inch catkins flower in early spring, producing small (0.25 inch) narrow cones that split to release copious amounts of tiny, cottony seeds that are dispersed by the wind (Little 1980). Reproduction is almost entirely vegetative, with suckers sprouting from existing root systems—aspens are cloned. As a result of this reproduction, aspens tend to grow in pure stands. This makes them visually cohesive in the landscape, and also provides a particular habitat that make them an important tree ecologically.

The average aspen tree survives between 60 to 80 years; the oldest on record is a 39-foot specimen in the California White Mountains, dated at 226 years of age. Based on the carvings on the trees, hundreds of the aspens recorded on the USMC Bridgeport Mountain Warfare Training Center exceed 100 years of age. Although aspens have a longer life than other trees, grove sizes are dwindling rapidly, particularly in the western portions of the U.S. Theories explaining the reduction include crowding by conifers and wildfire suppression programs. Various aspen regeneration projects have been undertaken in a number of national forest districts; however, these programs do not replace the culturally sensitive aspen groves.

Historic sheepherding required herders to spend months isolated in the fields with their flocks. Based on the herding schedule, arborglyphs were produced during the summer months—normally from late June to September or October. Each herder was charged with the care of a herd (usually 1,500 ewes, plus their lambs), and on a daily basis his only company was a donkey (or horse) and dogs. Occasionally, the closest herder on the same mountain range might ride in or walk over for a visit. A camp tender visited each herder once a week to every 10 days and brought provisions, mail from home, and news from the "other" world.

It was during the long periods of solitude that these men left their personal messages and artistic representations on aspen trees. The shepherds chose smooth, mature aspens within the grazing areas, usually in meadows and along canyons trails. When aspens were not available, carving was also done on

cottonwood, pine, and alder trees (Mallea-Olaetxe 2000:11). Mature trees were preferred because more detailed and larger figures could be carved. A ten-penny nail was considered the best tool for carving trees, but a pocket knife or other sharp objects were also used.

Aspen carving is not an exact science and varies from area to area. Normally, it takes a couple of years after an incision is made for the tree to close a "wound" with a black or dark-colored scar. The horizontal growth of a tree trunk eventually renders the artist's single incision into a double line. The growth, which occurs between the two lines, pushes them farther apart, to the point that, for example, the carving of a man will appear to have two noses or two chins. This is not as much of a problem when interpreting figures or drawings, but is especially difficult with deciphering writing.

Another important factor in the ability to understand a carving is the skill of the carver. Tree carving is a single event art, as one cannot erase an errant cut and do it over. The sheepherders had to take time to consider what they wanted to say or draw after selecting their canvas. The selection of a particular tree was therefore not random, since the overall tree size and the thickness and smoothness of the bark were major factors in deciding where to place the carving. It is also important to point out that each year both new and veteran herders added their names and stories to trees in groves that held earlier records. Multiple carvings and carvers are common on a single tree. Herders who retouched carvings or carved over older glyphs followed certain rules, making sure they did not damage the previous ones (Mallea-Olaetxe 2000:23).

The location or setting of the carved trees is also important. Based on observations in a number of areas, the herders selected specific trees and preferred location features. Trees standing on creek banks grow faster and produce a thicker scar, thus, distorting the carved characters and figures more quickly. Trees farther from water retain the carvings for a longer period and the carvings remain clearer. The higher the elevation, the more slowly the aspens grow, again affecting how long an incision will remain clear. For example, carvers who were exceptionally good or had something important to say chose a tree by the roadside or in some other conspicuous spot that would guarantee that others would find it. Based on the range of glyphs recorded by Dr. Mallea-Olaetxe, the more active carvers sought trees that were near sheep camps, favorite fishing areas, or in other strategically located areas. Many of the trees become "billboards," covered with carvings from top to bottom. Often an entire message cannot be read or seen from one viewpoint, making it necessary to walk around the tree. In addition, most carvings are read from the top to bottom, with the words placed in one or two vertical columns. Individual letters are positioned either vertically or horizontally.

The messages carved on the trees were designed to be read by other Basque herders; in general, they were not meant to be read by non-herders. The themes (name, date, and information regarding one's hometown or country, work, personal observations) are similar from state to state and from grove to grove. In general, the process of sheepherding was much the same, regardless of location, so the concerns and topics were shared. However, knowing the names and date(s) carved in one grove does not ensure that the same will be true for another area. There are, however, some identical motifs carved on aspens in Nevada and California, although it does not appear that Basque sheepherders were simply following the art forms developed by herders in the Old Country (Mallea-Olaetxe 2000:17).

Themes found within the carvings include but are not limited to billboard/multiple names, human figures, and self-portraits, and animals; artistic symbols, stars, and circles; and dated trees, names, climate, information on the herd, personal reflections, and daily life. Examples of some of the themes are provided below. All of these examples are from the Grouse Meadows Complex.

Billboards, Multiple Carvers, and Dates

Photograph 3-6 shows two large aspens joined at the trunk. The two trees provided a sheepherder with a canvas large enough to—without skipping details—vent his anger and frustrations toward a wife or woman in Europe. In all, eight herders carved on these two aspens with dates of 1910, 1911, 1916, 1917, 1935 (two), 1940, and one undated.

PHOTOGRAPH 3-6. TWO LARGE ASPENS JOINED AT THE TRUNK

The three massive aspens in Photograph 3-7 are over a century old and thoroughly carved. From this vantage point alone, eight different carvings can be detected and there are more on the backside. Trees such these, standing by the trail, were frequently carved and used as billboards by the herders.

PHOTOGRAPH 3-7. MULTIPLE ASPEN CARVINGS

Human Figures

Photographs 3-8 and 3-9 show sketches of human figures.

PHOTOGRAPH 3-8. FEMALE REPRESENTATION

PHOTOGRAPH 3-9. EMBRACING COUPLE

Self Portraits

Photographs 3-10 and 3-11 show sketches of self portraits.

PHOTOGRAPH 3-10. SELF PORTRAIT

PHOTOGRAPH 3-11. POSSIBLE PORTRAIT

Depiction of Animals

Photographs 3-12 and 3-13 show depictions of animals.

PHOTOGRAPH 3-12. ANIMAL DEPICTION

PHOTOGRAPH 3-13. EXAMPLE OF A BIRD

Symbols

Miscellaneous symbols include stars, heart figures, crosses, and a variety of cartouches, which people carved to enhance their name but more often their initials (Photographs 3-14 through 3-17). One of the more unusual human figures is one that shows a man with a large backpack facing a house, which was carved by B. Delgado (September 22, 1919).

PHOTOGRAPH 3-14. SYMBOLS

PHOTOGRAPH 3-15. SYMBOL WITH DATE (1935)

PHOTOGRAPH 3-16. STAR

PHOTOGRAPH 3-17. BOTTLE WITH A CUP TO THE LEFT

Carvers and Dates

The Grouse Meadows Complex has signatures of more than 81 different herders (excluding Peruvians), with more than 20 of the glyphs dated to the 1800s. Some examples are shown in Photographs 3-18 through 3-22. Several of these are not aspens.

PHOTOGRAPH 3-18. "1893"

PHOTOGRAPH 3-19. "1888"

PHOTOGRAPH 3-20. "1903"

PHOTOGRAPH 3-21. HERDER "ALVAREZ 1898"

PHOTOGRAPH 3-22. HERDER "FRANK ITHURRALDE 1916"

Personal Accounts

A number of the carvings include personal accounts regarding the weather, condition of the herd, economics, political statements, and personal feelings. In general, each herder was a historian and told his story in his own words, free from censors and free from historic interpretation and biases. The carved trees found at both Grouse Meadows and Mill Creek contain carvings and information that surpass other areas in both quality and quantity (Photographs 3-23 and 3-24). Without the carvings, it would be extremely difficult if not impossible to re-create and interpret some of the activities and circumstances that occurred in the late 1800s and early 1900s in this part of the high Sierras.

PHOTOGRAPH 3-23. LOOKING INTO GROUSE MEADOWS ASPEN GROVES

PHOTOGRAPH 3-24. LOOKING INTO MILL CREEK ASPEN GROVES

Actual interpreted glyphs

Tomorrow I am going to America, I am not an American, I am not a sheepherder, but I am here.

If there is no hope to return back home, there will be something left on the trees of America.

The new herder will see there the name of the old one, the trees will tell you of the Basques who were here before.

With our sheep and the lambs, we are headed for the high country to get acquainted with strange roads, always thinking about our next return to town. We would have come gladly, but we could not abandon the sheep.

As we begin to carve, the Basque Country is always on our minds, hoping to return someday, after making a little money.

I give advice to whoever reads this: If you want to fare well here, you must get up early in the mornings, and (then) tie your shoes very well.

3.4 Site Specific Historic Context

The upper Sierra Nevada Mountains are expected to contain high concentrations of tree carvings. There are large stands of aspen trees and the area has been heavily used for open range sheep grazing for many years. Arborglyphs are found in the Sierra National Forest, south of Yosemite and farther south in Sequoia National Forest. Most of the Basque herders in Yosemite were from Iparralde (northern region) and they inscribed more messages in Euskara than did their countrymen from other regions (Mallea-Olaetxe 2000:30). Other areas that have been partially documented include Eldorado National Forest, Pine Nut Range (Carson Valley, Nevada), Hope Valley (California), Genoa Peak (Nevada), Spooner/Marlette Lake (Nevada), Mount Ross (Nevada), Tahoe National Forest (California), Plumas National Forest (California), Pine Forest (Humboldt County, Nevada), Steens Mountain (Southeastern Oregon), Columbia Basin (Elko County, Nevada), Independence Mountains (Humboldt National Forest, Elko County, Nevada), Ruby Mountains (Elko County, Nevada), Desatoya and Clan Alpine Mountains (Nevada), John's Wash (White Pine County, Nevada), Cave Lake (White Pine County, Nevada), Berry Creek and Timber Creek (Humboldt National Forest, Nevada), Telegraph Mountain (White Pine County, Nevada), Cherry Creek, Elko and White Pine Counties (Nevada), Peavine Mountain (Nevada), and Copper Basin (Nevada) (Mallea-Olaetxe 2000). None of these studies have involved property owned or leased by a DoD facility or installation. Additional areas not included in this list are aspen stands in Idaho, Oregon, and Washington. Of the studies listed above, the Peavine Mountain and Copper Basin studies are more extensive.

How much information can be obtained from Basque tree carvings in a specific area? In order to address this question, specific information derived from the USMC Mountain Warfare Training Center study is presented. The USMC facility is off State Highway 108 at Pickel Meadow, 21 miles northwest of Bridgeport, California, and 100 miles south of Reno, Nevada (Figures 3-2 and 3-3). The Mountain Warfare Training Center is in east-central California in the Sierra Nevada mountain range (Mono County, California, and Lyon County, Nevada). Its eastern boundary follows the Tuolumne and Mono, or Alpine and Mono county lines at the Sierran crest. The terrain is mountainous, with elevations ranging from, 6,765 feet to nearly 12,000 feet. The West Walker River, a year-round stream, crosses east through the Pickel Meadow portion of the facility.

Marine Corps use of the area began in 1951, when Camp Pendleton (CPEN) activated the Cold Weather Training Battalion, Provisional Staging Regiment, Training and Replacement Command in Idyllwild, California. Two weeks later, the USMC redesignated the training camp as the Cold Weather Battalion, Staging Regiment, Training and Replacement Command, CPEN, California, and relocated it to Pickel Meadow. Land used by the base covers approximately 54,000 acres: 46,000 acres under an Interagency Agreement and 8,000 acres under annual special-use authorizations in the Humboldt-Toiyabe National Forest.

The prime objective of the camp was cold weather training for Korea. In May 1952, the USMC redesignated Pickel Meadow as Cold Weather Battalion, Bridgeport, California, Marine Barracks, CPEN. Although a number of name changes occurred in the 1950s, by 1963, the facility was known as the Marine Corps Mountain Warfare Training Center, Bridgeport, California, and was operated on a year-round basis. The facility was placed on caretaker status and reactivated in 1976. The Marine Corps Mountain Warfare Training Center is a major subordinate element of the Marine Air/Ground Task Force Training Command. With support from Marine Corps Installations-West, they conduct unit and individual training courses to prepare USMC, Joint, and Allied Forces for operations in mountainous, high altitude, and cold weather environments. Marine Corps Mountain Warfare Training Center also provides support to Marine Corps Combat Development Command, Training and Education Command, Marine Corps Systems Command, and other USMC and DoD agencies engaged in the development of war fighting doctrine and specialized equipment for use in mountain and cold weather operations.

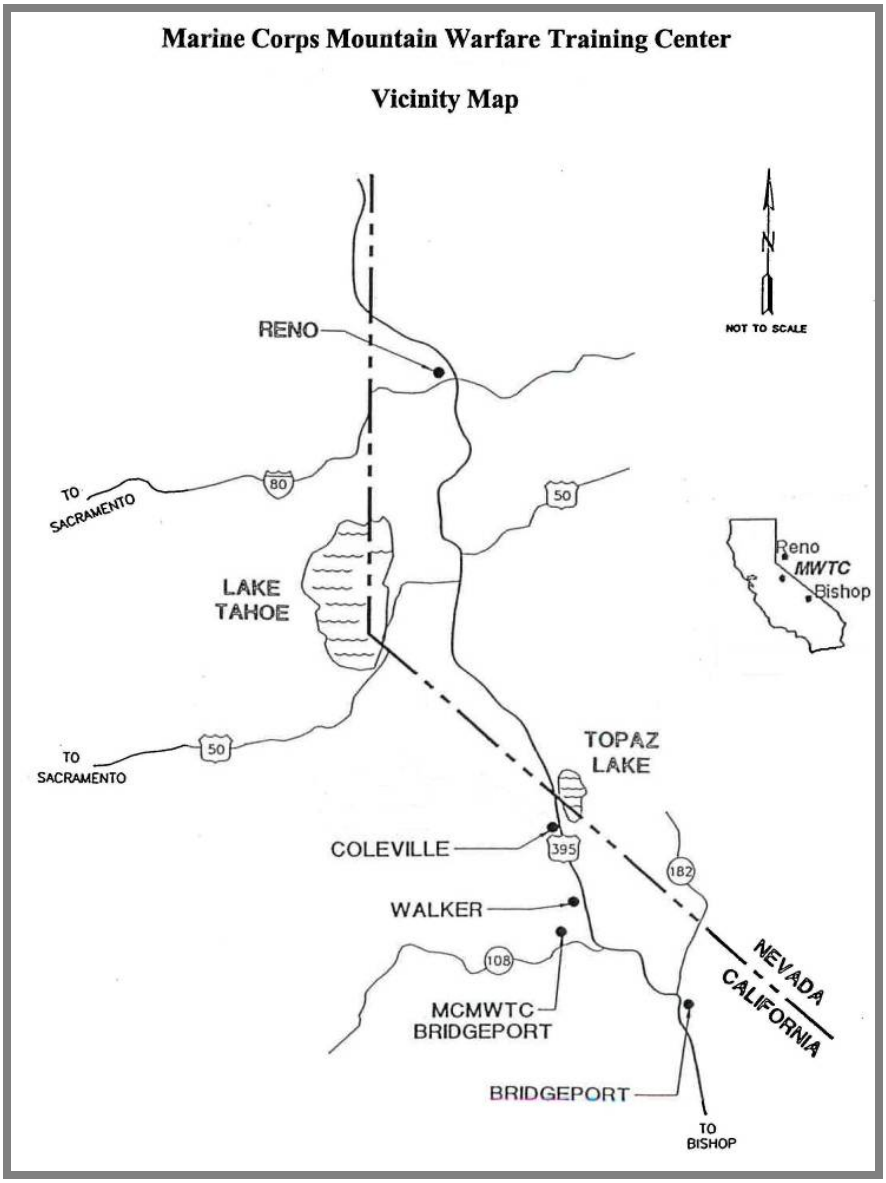


FIGURE 3-2. LOCATION MAP

FIGURE 3-3. AERIAL VIEW OF THE FACILITY WITH ASPENS AND PINES

Archaeological studies in the Marine Corps Mountain Warfare Training Center vicinity have recorded a number of Basque shepherd locales (Self 1990, Berryman et al. 2005 and 2006, Mallea-Olaetxe 2004, 2005). Like other immigrant groups, the Basque eventually made the transition from mining to other occupations. In the case of the Basque, the change was made back to traditional sheep raising. As a result, sheep ranching in the 1860s surpassed cattle, with sheep raised mostly for the mining camps. The carved aspens found at the Marine Corp Training Center refer directly to the history of local ranching families who pastured sheep there. Within the Training Center extensive stands of aspens are present at both Grouse Meadows and in Mill Creek Canyon (Berryman et al. 2005 and 2006). These stands are considered the largest and oldest stands known in the U.S. and represent activities associated with Basque sheepherding from the 1880s through the 1960s (Figure 3-4). More recent carvings, post-1960s, are associated with sheepherders from Peru and Chile.

FIGURE 3-4. AERIAL VIEW OF GROUSE MEADOWS

Grouse Meadows, Mill Creek, and other grazing areas were tied to the economy of Virginia City, Nevada, as well as other mines of the area, and Nevada in general rather than to the California Valley. The strikes began in 1857 with gold in Dogtown, not far from Bridgeport, California. In 1860, the bigger strikes at Aurora and Bodie brought a flood of "get-rich-quick" miners into the territory, which generated enough economic activity for pioneer ranchers and business people to follow in their footsteps. Both cattle ranching and sheepherding provided the needed resources for the miners. According to official U.S. census figures, California had over a million sheep in 1860, which in 10 years multiplied to over 3.6 million. The numbers of sheep grew to more than six million and they were so populous that in 1877 more than 2.5 million sheep died from various causes in southern California alone (Douglass and Bilbao 1975:221, 239). Despite this success the sheepherding industry never recovered after the Great Depression and the enactment in 1934 of the Taylor Grazing Act.

One of the earliest sheep companies that summered in the Grouse Meadows area was the Yparraguirre brothers from Sweetwater, Nevada. An example of the long association of this group is a Grouse Meadows Complex tree which includes the carved name of "Frank Yparraguirree 1908." Four brothers emigrated from the Basque village of Etxalar in Navarre. The oldest brother owned a hotel in San Francisco and the other three (Francisco, Paulo, and Leon) herded sheep in Elko, Nevada, and in several parts of California. In 1886–87, the three brothers bought the Sweetwater Ranch, also called Williams Inn, with 32 rooms and 2,300 to 2,400 acres. The inn was a few miles east of Bridgeport, California, on the road to Smith Valley, Nevada. The brothers ran a large sheep operation in the "Basque manner." Meaning, some of their herders were also quasi-partners, who were paid in ewes rather than in wages. Thus, owners and herders were equally interested in the success of the operation. The brothers Manuel

and Migel Yrigoyen, and a Sanzberro had an interest in the operation, as did camp tender Jacinto "Txapo" Agerreberro and Martin Harriet.

Not many other Basques owned ranches in Nevada when the Yparraguirres settled in Sweetwater. The Altube brothers moved their ranching operations from northern California to northern Elko County in 1870–71, and their friends J. B. Garat and J. P. Yndart followed a couple of years later. The Altubes created the Spanish Ranch, Nevada's biggest ranching empire, while the Garat and Yndart founded the YP Ranch adjacent to the Altubes (Mallea-Olaetxe 2000:9). Other early ranchers and sheepmen in the vicinity of Grouse Meadows were Guy M. Terry and Ruben C. (RC) Terry.

In 1905–1906, the USFS made its first appearance in Grouse Meadows. Since the land was free for the taking, it was difficult to determine which sheep or cattle company grazed on USFS lands. In Grouse Meadows, a tree inscribed by "Frank Yparraguirre, 1908" represents one of the earliest sheep owners on record in this area. In April 1906, Yparraguirre applied for a USFS user permit, stating that he had grazed his sheep in Pickel Meadows and in Pickel Bench (Grouse Meadows) between 1890 and 1900. The 1906 permit was granted by the Stanislaus Forest and cost $399. This permit gave Yparraguirre the right to graze 5,700 head of sheep during the summer and early fall months.

Yparraguirre grazed sheep in Grouse Meadows until 1910, when the USFS modified the allotments and assigned the meadow to the Terry Sheep Company. Yparraguirre's allotment was displaced farther south and west.

The majority of the arborglyphs recorded in Grouse Meadows by Dr. Mallea-Olaetxe represent the history of the Terry Sheep Company. In 1910, three names appear as beneficiaries of the Terry forest allotment: Guy M. Terry, Ruben C. (RC) Terry, and Telge F. Hardy. The latter ran the Hardy Land Company, sometimes in association with Ricky Land, which was one of the largest landowners of the area. After 1912, Hardy's name is absent from the Terry forest allotment. When RC died in 1929, Guy became the executor. Their forest permit was called the Mill Creek and Lost Cannon allotment and it remained so until Guy sold the company in 1944. Terry also leased a winter range from the government in the Sweetwater District. In 1916, Guy owned 2,050 sheep, divided in two bands. One band of 955 head was herded by Charles Taylor, and the other band of 1,014 sheep was herded by François Ithurralde.

In 1917, RC increased the sheep numbers to 2,000, and in 1917, that number increased to 2,200. Forest fees came to $130. In 1918, two new names show up in the arborglyph record: Chas. Luccass and Joe Aristu. In 1920, the Humboldt-Toiyabe National Forest came up with new forms for lease-holding ranchers to fill out. These forms include more questions, such as the citizenship of the rancher. By then the Terrys were prospering; besides sheep, RC had 85 head of cattle and property in Coleville, Smith Valley, Nevada, and elsewhere. The sheep numbers remained stable, between 2,200 and 2,500 until 1929.

Unlike Grouse Meadows (approximately 0.25 mile from Mill Creek Canyon), Mill Creek Canyon is predominantly associated with the Terry Sheep Company of Coleville, California. The Terrys first secured a USFS allotment in Mill Creek in 1910, and held onto it until 1944. The allotment was usually called Lost Cannon, and referred to as Mill Creek or Lost Cannon after 1912. The allotment straddled both the Humboldt-Toiyabe and Stanislaus forests. The carvings that might be found in the Lost Cannon Canyon dating between 1910 and 1944 would have been carved by the Terry herders. The Mill Creek-Lost Cannon allotment was acquired by Albert Roberts in 1944. Roberts became the new "sheep man" for both Mill Creek Canyon and Grouse Meadows, acquiring both the sheep and a permit to graze. A number of the carvings in Mill Creek Canyon can be attributed to the Roberts (Albert and his son George).

During three cultural resources survey seasons at Bridgeport, a number of large aspen stands and smaller groves were identified and recorded. These stands ranged from the 1,000+ trees at Grouse Meadows and Mill Creek to smaller areas with 30 to 40 carved trees. Although the carvings are primarily Basque in

origin, historic military glyphs and non-Basque carvings were also identified. The larger stands were recorded using DPR forms and given a state trinomial (CA-MNO) and a USFS accession number (USFS-TY). Two of the larger groves (Grouse Meadows and Mill Creek) were extensively documented by Dr. Mallea-Olaetxe as part of the survey. The number and extent of the groves illustrate the long-term use of the Humboldt-Toiyabe area by Basque shepherds.

Two of the larger stands, Grouse Meadows and Mill Creek, have been recorded using both standard DPR forms, video recording, and high-resolution digital photographs. The information collected from Grouse Meadows illustrates the extensive and complex nature of the existing arborglyphs. A short background of this grove is given, illustrating the type of historic information that is present.

Grouse Meadows ranges from 7,000 feet to 8,600 feet above mean sea level (AMSL). The stand of aspen trees found in Grouse Meadows is recorded as CA-MNO-3827. Although the meadow is used as a training area by the USMC, there have been minimal impacts to the grove. The recorded site covers an area more than six acres, with carvings ranging from 1888 to the 1930s. The glyphs in this grove include human representations, names, animal representations, and branding marks. Names and messages are written in Basque, English, and Spanish. The site is at the 8,544-foot AMSL with a number of small drainages running through the grove. Many of the trees contain multi-generational carvings—with newer glyphs carved on older ones. Although no historic artifacts or historic structural remains were found in the meadow or in the grove, the setting appears to be extremely advantageous for sheep grazing and herd tending.

After extensive study and recording of over 992 individual glyphs, the following information was gathered from the Grouse Meadows stand:

Number of aspen groves: 7 (division based on natural groupings, or due to road boundaries)

Number of carved aspen trees recorded: 566

Number of arborglyphs recorded: 992

Oldest date found: 1888

Oldest readable initials: E, 1888; P.O. 1890 (E could be Erro, see next)

Oldest readable names: Teodoro Erro, July 6, 1891; Braulio, 1891

Number of glyphs dated to the 1800s: 20 (two of the dates are questionable)

Number of century-old glyphs: 48 (a few dates are tentative)

Oldest USMC date: Aug. 21, 1948

Longest carving: 61 words (including dates) by Anacleto Goñi, Aug. 16, 1917

Most loquacious herders: Peyo Ernaga and Goñi

Most informative and interesting carver: Ernaga

Herders who carved in Basque: Ernaga and Ithurralde (Ernaga also carved in Spanish and French, and Goñi also carved in English)

Most active carvers: Peyo/Pierre Ernaga, 45 glyphs, all dated to the summer of 1928; Anacleto Goñi, 52 glyphs, 1915–1917; Angel Balunda, 54 glyphs, all in 1911; Esteban Yrisarri, 129 glyphs, 1934–1937

Number of readable sheepherder names: 81 (including Peruvians)

90 percent of the carvings contain names and personal identification; 80 percent of the glyphs contain a date.

Topics include personal views, references to hometown or country, daily life, shepherding, women and erotic matters, shearing, economics/money, religion, and goodbyes.

The most active carver for Grouse Meadows is Peyo/Pierre Ernaga (45 glyphs, all dated to the summer of 1928). The types of information found in his carvings include the following (actual interpretations):

> *I have three years in this country and I told my girlfriend that I had 2,000 pesos and she told me send it over, my Uncle says that you should put it in the bank, what a big mouth. Two greedy people (Grove 1, Tree #10).*
>
> *I've thought about quitting work because of Guy Terry's bugging, but I've lost a lot of sheep and he pays me alright (Grove 1, Tree #15).*
>
> *..., the 21st day of July 1928 I counted the flock and have 2407. I'm not missing more than 50. It's not too many for me, that all boss (Grove 1, Tree #51).*
>
> *I have no pasture left, the herd is 2,500 and in bad condition, the herder has to endure these three things, plus bad and range, that's five things (Grove 1, Tree #55).*
>
> *July 14, 1928, today our bagpiper was here with the butcher. He thought I had lambs of 80 lbs, but they don't weigh no even 30 (Grove 1, Tree #57).*
>
> *Today we have cocoa and cod fish, very salty (Grove 1, Tree #59).*

This last is an unusual carving as it includes three references to food: "today we have chocolate, cod fish and very salty." Salted cod and chocolate is a specialty of Basque cuisine. The cod was cheap and perfectly suited for a sheepherder lifestyle, easily transported and impervious to climatic conditions, and needless to say, tasty and nutritious. The above carving mentioning salted cod and chocolate is important because these items do not survive in the archaeological record.

It was also illustrative that during the three successive field seasons, a number of aspen trees within Grouse Meadows died, fell, and/or became impossible to read—further illustrating the rapid loss of this resource. Since the cultural resource is linked to a living tree with a limited life span, there is little opportunity to return to the original grove and "re-do" the survey.

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4. EVALUATING THE NATIONAL REGISTER ELIGIBILITY OF BASQUE ARBORGLYPHS

The historic context provides a background against which the significance of arborglyphs can be evaluated. This section details the process which may be used to associate individual trees or groves with the historic context and in the process evaluate eligibility for inclusion in the NRHP. Although many of the larger aspen groves with carved trees remain intact, none have been formally nominated to the NRHP. Carving in these groves is estimated to extend back to the mid-1880s. Part of the problem in determining significance has been the result of gaps in the database, the absence of a regional context and the inconsistency in recording the glyphs. Scattered local contexts have been developed by historical societies or by individual national forests or BLM districts on a project-by-project basis. Similarly, with the exception of the Bridgeport facility, none of the DoD installations have been formally evaluated for historic resources as they relate to Basque sheepherding traditions.

4.1 National Register Criteria Guidelines

The NRHP is the federal government's list of cultural resources that have been objectively, consistently determined to be worthy of preservation or consideration when making planning and development decisions. The NRHP is maintained by the National Park Service, in partnership with the SHPO. The types of cultural resources that can be listed in the NRHP include buildings, structures, objects, districts, and sites. The determination of whether or not a cultural resource is eligible to be listed in the NRHP is guided by the National Register Criteria for Evaluation. The purpose of the Criteria for Evaluation is to determine whether or not a cultural resource is associated with a significant aspect of the broader historic context, and, if so, whether or not the cultural resource retains sufficient physical integrity to communicate its association with its historic context.

To be eligible for the NRHP, a cultural resource typically must be at least 50 years old, retain sufficient integrity, and meet at least one of the following criterion:

The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects of state and local importance that possess integrity of location, design, setting, materials, workmanship, feeling and association and:

A. That are associated with events that have made a significant contribution to the broad patterns of our history; or
B. That are associated with the lives of persons significant in our past; or
C. That embody the distinctive characteristics or a type, period, method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
D. That has yielded, or may be likely to yield, information important in prehistory or history [36 CFR 60.4].

To be considered for listing under **Criterion A**, a property must be associated with one or more events important in the defined historic context. Criterion A recognizes properties associated with single events, such as the founding of a town, or with a pattern of events, repeated activities, or historic trends, such as the gradual rise of a port city's prominence in trade and commerce. The event or trends, however, must clearly be important within the associated context: settlement, in the case of the town, or development of

a maritime economy, in the case of a port city. Moreover, the property must have an important association with the event or historic trends, and it must retain historic integrity.

Criterion B applies to properties associated with individuals whose specific contributions to history can be identified and documented. Persons "significant in our past" refers to individuals whose activities are demonstrably important within a local, State, or national historic context. The criterion is generally restricted to those properties that illustrate (rather than commemorate) a person's important achievements. The persons associated with the property must be individually significant within a historic context. A property is not eligible if its only justification for significance is that it was owned or used by a person who is a member of an identifiable profession, class, or social or ethnic group. It must be shown that the person gained importance within his or her profession or group.

Criterion C applies to properties significant for their physical design or construction, including such elements as architecture, landscape architecture, engineering, and artwork. To be eligible under Criterion C, a property must meet at least one of the following requirements:

- Embody distinctive characteristics of a type, period, or method of construction.
- Represent the work of a master.
- Possess high artistic value.
- Represent a significant and distinguishable entity whose components may lack individual distinction.

The first requirement, that properties "embody the distinctive characteristics of a type, period, or method of construction," refers to the way in which a property was conceived, designed, or fabricated by a people or culture in past periods of history. "The work of a master" refers to the technical or aesthetic achievements of an architect or craftsman. "High artistic values" concerns the expression of aesthetic ideals or preferences and applies to aesthetic achievement.

The distinctive characteristics of type, period, and method of construction under Criterion C describe the architectural styles and construction practices. To be eligible under this portion of the Criterion, a property must clearly illustrate, through "distinctive characteristics," the following:

- The pattern of features common to a particular class of resources,
- The individuality or variation of features that occurs within the class,
- The evolution of that class, or
- The transition between classes of resources.

Distinctive Characteristics: "Distinctive characteristics" are the physical features or traits that commonly recur in individual types, periods, or methods of construction. To be eligible, a property must clearly contain enough of those characteristics to be considered a true representative of a particular type, period, or method of construction. Characteristics can be expressed in terms such as form, proportion, structure, plan, style, or materials. They can be general, referring to ideas of design and construction such as basic plan or form, or they can be specific, referring to precise ways of combining particular kinds of materials. "Type, period, or method of construction" refers to the way certain properties are related to one another by cultural tradition or function, by dates of construction or style, or by choice.

Archaeological resources (historic and prehistoric) are usually eligible under Criterion D: Information Potential. Certain important research questions about human history can only be answered by the actual physical material of cultural resources. Criterion D encompasses the properties that have the potential to answer, in whole or in part, those types of research questions. The most common type of property nominated under this Criterion is the archaeological site (or a district comprised of archeological sites). Buildings, objects, and structures (or districts comprised of these property types), however, can also be eligible for their information potential.

Criterion D has two requirements, which must *both* be met for a property to qualify:

- The property must have, or have had, information to contribute to our understanding of human history or prehistory, and

- The information must be considered important.

Under the first of these requirements, a property is eligible if it has been used as a source of data and contains more, as yet unretrieved data. A property is also eligible if it has not yet yielded information but, through testing or research, is determined a likely source of data.

Under the second requirement, the information must be carefully evaluated within an appropriate context to determine its importance. Information is considered "important" when it is shown to have a significant bearing on a research design that addresses such areas as: (1) current data gaps or alternative theories that challenge existing ones or (2) priority areas identified under a state or federal agency management plan.

When evaluated within its historic context, a property must be shown to be significant for one or more of the four Criteria for Evaluation (A, B, C, or D). The Criteria describe how properties are significant for their association with important events or persons, for their importance in design or construction, or for their information potential. The basis for judging a property's significance and, ultimately, its eligibility under the Criteria is historic context. The use of historic context allows a property to be properly evaluated in a nearly infinite number of capacities. After identifying the relevant historic context(s) with which the property is associated, the four Criteria are applied to the property. Within the scope of the historic context, the National Register Criteria define the kind of significance that the properties represent.

To be listed in the National Register of Historic Places, a property must not only be shown to be significant under the National Register criteria, but it also must have integrity. The evaluation of integrity is sometimes a subjective judgment, but it must always be grounded in an understanding of a property's physical features and how they relate to its significance. Historic properties either retain integrity (this is, convey their significance) or they do not. Within the concept of integrity, the National Register criteria recognizes seven aspects or qualities that, in various combinations, define integrity.

To retain historic integrity, a property will always possess several, and usually most, of the aspects. The retention of specific aspects of integrity is paramount for a property to convey its significance. Determining which of these aspects are most important to a particular property requires knowing why, where, and when the property is significant. National Register Bulletin No. 15 identifies seven aspects or qualities that, in various combinations, define integrity. To retain historic integrity, a property will always possess several, and usually most of the following:

Location

Location is the place where the historic property was constructed or the place where the historic event occurred. The relationship between the property and its location is often important to understanding why the property was created or why something happened. The actual location of a historic property,

complemented by its setting, is particularly important in recapturing the sense of historic events and persons.

Design

Design is the combination of elements that create the form, plan, space, structure, and style of a property. It results from conscious decisions made during the original conception and planning of a property (or its significant alteration) and applies to activities as diverse as community planning, engineering, architecture, and landscape architecture. Design includes such elements as organization of space, proportion, scale, technology, ornamentation, and materials. A property's design reflects historic functions and technologies as well as aesthetics. It includes such considerations as the structural system; massing; arrangement of spaces; pattern of fenestration; textures and colors of surface materials; type, amount, and style of ornamental detailing; and arrangement and type of plantings in a designed landscape. It also applies to the way in which buildings, sites, or structures are related: for example, spatial relationships between major features; visual rhythms in a streetscape or landscape plantings; the layout and materials of walkways and roads; and the relationship of other features, such as statues, water fountains, and archeological sites.

Setting

Setting is the physical environment of a historic property. Whereas location refers to the specific place where a property was built or an event occurred, setting refers to the *character* of the place in which the property played its historical role. It involves *how*, not just where, the property is situated and its relationship to surrounding features and open space. Setting often reflects the basic physical conditions under which a property was built and the functions it was intended to serve. In addition, the way in which a property is positioned in its environment can reflect the designer's concept of nature and aesthetic preferences.

The physical features that constitute the setting of a historic property can be either natural or manmade, including such elements as:

- Topographic features (a gorge or the crest of a hill);
- Vegetation;
- Simple manmade features (paths or fences); and
- Relationships between buildings and other features or open space.

Materials

Materials are the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property. The choice and combination of materials reveal the preferences of those who created the property and indicate the availability of particular types of materials and technologies. Indigenous materials are often the focus of regional building traditions and thereby help define an area's sense of time and place.

Workmanship

Workmanship is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory. It is the evidence of artisans' labor and skill in constructing or altering a building, structure, object, or site. Workmanship can apply to the property as a whole or to its individual components. It can be expressed in vernacular methods of construction and plain finishes or in highly

sophisticated configurations and ornamental detailing. It can be based on common traditions or innovative period techniques.

Workmanship is important because it can furnish evidence of the technology of a craft, illustrate the aesthetic principles of a historic or prehistoric period, and reveal individual, local, regional, or national applications of both technological practices and aesthetic principles.

Feeling

Feeling is a property's expression of the aesthetic or historic sense of a particular period of time. It results from the presence of physical features that, taken together, convey the property's historic character. For example, a rural historic district retaining original design, materials, workmanship, and setting will relate the feeling of agricultural life in the nineteenth century. A grouping of prehistoric petroglyphs, unmarred by graffiti and intrusions and located on its original isolated bluff, can evoke a sense of tribal spiritual life.

Association

Association is the direct link between an important historic event or person and a historic property. A property retains association if it is the place where the event or activity occurred and is sufficiently intact to convey that relationship to an observer. Like feeling, association requires the presence of physical features that convey a property's historic character. Because feeling and association depend on individual perceptions, their retention *alone* is never sufficient to support eligibility of a property for the National Register.

In addition to the criteria defined above, arborglyphs can be considered to be a rural landscape and/or as a Traditional Cultural Property. As defined in the National Register Bulletin #30 (Guidelines for Evaluating and Documenting Rural Historic Landscapes), a rural historic landscape is one of the categories of property qualifying for listing in the National Register as a historic site or district. For the purposes of the National Register, a rural historic landscape is defined as a geographical area that historically has been used by people, or shaped or modified by human activity, occupancy, or intervention, and that possesses a significant concentration, linkage, or continuity of areas of land use, vegetation, buildings and structures, roads and waterways, and natural features. Rural landscapes commonly reflect the day-to-day occupational activities of people engaged in traditional work such as mining, fishing, and various types of agriculture. Often, they have developed and evolved in response to both the forces of nature and the pragmatic need to make a living.

As defined in Bulletin #30, rural historic landscapes usually fall within one of the following types based upon historic occupation or land use and include agriculture (various types of cropping and grazing), industry (mining, lumbering, fish-culturing, and milling), maritime activities such as fishing and shipbuilding, recreation (hunting or fishing camps),transportation systems, migration trails, conservation (including natural reserves), and sites adapted for ceremonial, religious, or other cultural activities, such as camp meeting grounds. Although diverse, these types all contain substantial areas of vegetation; open space; or natural features that embody, through past use or physical character, significant historical values.

Two important components in defining a rural landscape include response to the natural environment and cultural traditions. The location of the sheepherder’s camp, position, and style of the arborglyphs are directly related to these components. Response to the natural environment illustrate how major natural features, such as mountains, prairies, rivers, lakes, forests, and grasslands, influenced both the location and organization of the sheepherder camps and activities. Traditions in land use and social customs commonly evolved as people responded to the physiographic and ecological systems of the area where they settled. Available resources such as open meadows suitable for grazing and the presence of aspen

trees influenced the location of this particular historic resource. Cultural traditions affect the ways that land is used, occupied, and shaped. Religious beliefs, social customs, ethnic identity, and trades and skills may be evident today in both physical features and uses of the land. Ethnic customs were often transmitted by early settlers and perpetuated by successive generations. The aspen carvings would be a good example of this type of tradition carried over from generation to generation. Various types of vegetation also bear a direct relationship to the established patterns of land use. Vegetation may include indigenous, naturalized, and introduced species.

National Register Bulletin #38 defines the procedures for evaluating and documenting Traditional Cultural Properties. Traditional in this context refers to those beliefs, customs, and practices of a living community of people that have been passed down through the generations, usually orally or through practice. Examples of properties possessing such significance include:

- A location associated with the traditional beliefs of a Native American group about its origins, its cultural history, or the nature of the world;
- A rural community whose organization, buildings and structures, or patterns of land use reflect the cultural traditions valued by its long-term residents;
- An urban neighborhood that is the traditional home of a particular cultural group, and that reflects its beliefs and practices;
- A location where Native American religious practitioners have historically gone, and are known or thought to go today, to perform ceremonial activities in accordance with traditional cultural rules of practice; and
- A location where a community has traditionally carried out economic, artistic, or other cultural practices important in maintaining its historic identity.

A traditional cultural property, then, can be defined generally as one that is eligible for inclusion in the National Register because of its association with cultural practices or beliefs of a living community that (a) are rooted in that community's history and (b) are important in maintaining the continuing cultural identity of the community.

4.2 Research Orientation

4.2.1 Site Formation

One of the primary goals of a site evaluation is to define the horizontal distribution and vertical depth of an archaeological deposit. This information is necessary for establishing the subsurface context of the archaeological deposit and for defining the intra-site relationships among the various concentrations and loci. These definitions are critical for determining site significance as part of a NRHP nomination evaluation. The evaluation of site structure also provides information on the integrity of a site, and assists in the identification and quantification of post-depositional alterations, which may be the result of erosion or cultural (historic land use) processes. The identification of the site formation for arborglyphs differs from typical archaeological sites in that there is no subsurface or depth of deposit associated with the aspen or other carved trees. Ancillary features such as temporary campsites, artifact scatters, and work areas could have a vertical depth. In the case of aspen carvings, archaeological context and natural surroundings are influenced by weather conditions, erosion, bioturbation, and modern land use actions such as clear cutting, military training, fire, and removal of associated pine trees. Reliably reconstructing

human behavior based on an archaeological record is dependent upon finding artifacts and ecofacts in a context that is as close to the original (*in situ*) circumstances as possible; in the case of aspens, the trees and carvings are still in place and exhibit original setting and location.

Key research questions that are considered during field evaluation include:

- Does the area represent a single tree (isolate) or multiple trees?
- What is the integrity of the grove?
- What are the main cultural features present: names, dates, inscriptions, symbols, figures, etc.?
- What is the condition, form, and level of preservation?
- From a landscape perspective, how does this site fit into an overall pattern for other groves in the vicinity or for other recorded groves?
- Does the grove represent an area that has been continually occupied or does it represent a single episode carved during a single season?
- Can the sequence of carved trees be determined? Are there overlapping carvings or single-event carvings?
- What is the level of preservation? What factors have altered the original configuration of the grove?
- Within the stand or groove, are cabins or other evidence of habitation present?

In general, it is unlikely that a single tree or a cluster of fewer than 20 trees would be eligible for nomination to the National Register. However, each individual cluster(s) should be evaluated in terms of the overall data potential and the types and information value of the glyphs. It is possible that a single tree would be eligible for eligibility (for example, if the carving is "1850" and represents the oldest carving left in the area). In general, the carvings do not conform very well to the idea of cluster; they must be considered globally, per range, drainage, or preferably by allotment. If these factors are not considered, the historical meaning can be divorced from the cultural setting.

4.2.2 Chronology and Component Definition

For typical archaeological sites, data on the sequence of occupation are provided mainly by radiocarbon dating, and to a lesser extent, on the recovery of time-sensitive artifacts. The carvings found on the aspens are in many cases time sensitive and time specific. Many of the carvings include the carver's name and date (year, month, and even day). In addition to information on the carving it is possible to obtain information from tree corings (dendrochronology) on the overall age of the carved tree. Questions addressing chronology generally address the resolution of issues associated with the long-term continuity of site occupation and the nature of the changes that appear to have occurred between grazing seasons and between different groves and occupation areas. Names and dates can be used to trace individual herders across the landscape, reconstruct the condition of the grazing areas, and determine how many herders were in a particular area. The Grouse Meadows and Mill Creek areas appear to provide more information than herders documented elsewhere. Also, it is important to stress that the carved information is original; there are no duplicates or repeats.

Research questions oriented towards defining period(s) of site use/occupation include:

- Is there datable cultural material from *in situ* contexts at the site?
- Can one or more occupational episode be documented?
- What is the range of recorded dates?
- What herders are represented at the site; how do the named herders compare with other known areas?
- Is there a correlation between the documentary record and the record represented on the carved trees?
- Is there a correlation between on-site interviews and historic accounts?

4.2.3 Settlement Organization

The subject of historic human settlement is a common theme of archaeological research in general, and is a particularly pertinent research theme for the sheep camps found in the high Sierras. The basic question that can be addressed involves determining the settlement pattern that the aspen groves represent and more importantly the settlement pattern of related sites, such as campsites, work stations, and artifact scatters. The basic site types would be created as a result of seasonal sheepherding, ranching occupation of the upper meadows. Expected site types include small campsites, bread ovens, trail markers, artifact scatters, monuments (*harri mutilak*), and arborglyphs. The *harri mutilaks* are stacked rock features that marked the borders of range allotments. They helped to prevent the mixing of sheep bands and were useful to newly arrived herders who did not know the high country. The presence of carved aspens, particularly in large numbers, suggests that a more intricate settlement pattern was present, with a primary campsite and probably a bread oven. A concentration of carvings often meant that the place was used as a temporary campsite by previous herders. Sometimes the carvings informed individual herders where to camp, or at least the pattern of carvings suggested that "this area was a better camping area." A good camp needed water, shade, and be on a vantage point if possible in order to watch the sheep.

Basic questions pertaining in defining the settlement pattern include:

- Can the role of a site be placed into a larger settlement pattern for the area?
- Does the site represent temporary seasonal occupation or a more permanent camp?
- How does the site fit into the larger regional landscape model?
- What is the duration and time period of site use?

4.2.4 Subsistence and Technology

The primary subsistence system employed by the historic inhabitants is assumed to have been based on some possible hunting and foraging with supplemented supplies brought by the camp tender and other goods that were found in the area. Sheepherders lived a mobile and/or seasonal pattern, following the sheep up to the upper meadows and returning them to the lower fields for transport over the course of the summer into the fall. Based on existing research, few of the carvings provide much detail on eating or

drinking. The camp tender brought most of the supplies which the herder may have supplemented with some hunting and fishing. Interviews with present-day herders suggest that the diets contained plenty of beans, potatoes, vegetables, fruits (mostly apples), bread, sugar, and wine (Mallea-Olaetxe 2000:87). The herders also ate a lot of canned and dried fruit, since fresh fruit was often not available. Tobacco was an essential part of the supplies. The majority of these items would not be preserved in the archaeological record. Excavations at sheep camps may uncover cans and historic bottles. Analysis of faunal remains may also suggest preferred cuts of meat and butchering techniques. Study of the carvings may also reveal additional information on diet and subsistence. Tools associated with herding would have been simple and again probably not well preserved in the archaeological record.

- What subsistence patterns are identifiable; were there changes in the diet and can they be associated with shifts in the climate and condition of the grazing areas?

- What specific type of technology was used in making the carvings--is there a shift in the skill exhibited by individual carvers through time and by individuals?

4.3 Case Study

Only one DoD installation, the Marine Corp Cold Weather Training Facility in Bridgeport California, has been systematically examined for arborglyphs. The resources found at this facility are used as a case study to illustrate the potential National Register eligibility of this historic resource. Because of the complexity of the carvings found at Grouse Meadows, this resource is considered significant at a national, state, and local level. Arborglyphs found at Mill Creek Canyon and in other areas of the base have only been partially identified and will require additional documentation.

Based on the nature of the resources, Criteria A, C, and D are applicable for evaluating the carved aspens recorded for Grouse Meadows. The grove of trees would also be potentially eligible for nomination as a Historic Landscape, a National Historic Landmark, and/or as Traditional Cultural Properties.

4.3.1 Criterion A

A property can be associated with either (or both) of two types of events:

- A specific event marking an important moment in American prehistory or history

- A pattern of events or a historic trend that made a significant contribution to the development of a community, a state, or the nation

The tree carvings recorded for Grouse Meadows have a direct association with the development of the western range and its people and with the Gold Rush mining period. Sheep operators and ranchers largely settled and developed the West, with the exception of the mining areas. Sheep interests were also instrumental in shaping much of the federal land policy in the American West. The sheepherders and ranchers provided two resources (meat and wool). In the Eastern Sierra, mining was a boom-and-bust activity. The railroads brought stability to the western range by expanding the markets for lamb and wool. The arborglyphs left behind by the sheepherders are a direct reflection of the growth and intensity of this industry. The carvings are also direct accounts of the changes in USFS grazing laws, the condition of the herds and of the grazing lands, and day-to-day conditions.

Aside from the individual names of the carvers and dates, much of the information found on the trees never enters into mainstream history of the American West. Standard documentary records such as census records, store invoices, tax assessment rolls, company books, and the like often overlook Basque

sheepherders. The archaeological record, manifested by the glyphs on the trees, remnants of sheep camps, and artifacts associated with this time period and industry, provides direct historic accounts of a practice that has been largely ignored in historical accounts. The Grouse Meadows and Mill Creek carvings complement local history by offering a rare view of immigrant herders taking care of sheep vital to the local economy. The Colville Cemetery (in Nevada) is the final resting place of some of the sheepherders whose names are on the trees, including the McConnels, Terrys, Fulstones, and Roberts.

Information about sheep and the grazing areas, when provided by the sheepherders themselves, is primary documentation that is not found in most historic accounts. For example, in the summer of 1917, Goni stated that the ground was dry as a stick (Mallea-Olaetxe 2008a). When recorded, this type of information provides excellent comparative data for recorded meteorological statistics.

The period of significance for the Bridgeport resources is from the 1880s to the present. The Grouse Meadows Arborglyph Complex is an evolving cultural resource, unlike many historic resources; it is not a static entity. The carved trees have dates and names beginning in the 1800s continuing through today. Evidence of day-to-day life and grazing practices spanning more than 100 years can be found on the individual trees. Since the practice of tree carving continues today, trees that are not currently 50 years of age will meet this criterion. These resources can be evaluated on a year-to-year basis. Single trees or clusters of trees that are of sufficient age may not be eligible but may be viewed as contributing elements to the larger complex of trees or associated historic resources.

The Grouse Meadows Complex may also be eligible for listing in the NRHP under Criterion A at the local level of significance for its association with a separate, local historic context. When evaluated against the historic context of the development of a town or area, individual groves may be significant in the area of community growth, economic growth and social history, or other areas of significance under Criterion A.

4.3.2 Criterion B

Data collected for Grouse Meadows indicates there are ±566 carved aspen trees with a minimum of 992 arborglyphs. Within the assemblage there are representations by more than 81 individual carvers. The most active names include Peyo/Pierre Ernaga (45 glyphs; all dated in the summer of 1928), Anacleto Goni (50 glyphs, 1915-1917), Angel Balunda (54 glyphs, 1911), and Esteban Yrisarri (129 glyphs, 1934-1937). Glyphs written by Ernaga indicate that he was born on August 9, 1904 in Banka (Lower Navarre, on the northern flank of the Pyrenees). Ernaga carved in three languages (Basque, Castilian, and French). Chronologically, the sheep operators of Grouse Meadows were Yparraguirre, Guy Terry, George Roberts, Fred Fulsltone, and perhaps the Borda Brothers. Some of the earlier carvers include Teodoro Erro (1891), with ±20 glyphs dated to the 1800s. A number of the historic Basque carvers have direct links to individuals considered important to the current community, including Yparraguirre (businessmen, lawyers and judges), Laxalts (governor and senator, writers, lawyers), Garamendi (Lt. Governor of California), Ascuaga (Casino owner), and Ernaut (politician in Nevada). Frank Yparraguirre was honored by President Johnson on his 100th birthday.

The majority of the glyphs constitute a marker and a record of the passing of the herder through a grazing area, many can be considered a footnote on sheepherding. The primary difference is that these documents are carved on trees and not written on paper or old parchment. The glyphs are often the only evidence of the names and dates for the individual herders and the companies they worked for. Although individual herders are not significant or important on an individual basis, they represent the early pioneers in the industry. Their names have not been defined as important because the glyphs were made by minority sheepherders with zero political visibility and power. Ellis Island records may contain some of the names that have been found on the carved aspens; however, they do not tell the researcher where the herder went

after New York or where they landed a job. The trees are a tangible memorial to some of these individuals and they capture the presence of these people in a particular area, at a specific time.

4.3.3 Criterion C

The glyphs recorded for Grouse Meadows are likely to be significant in the area of physical features and quality of design. Although many of the glyphs are difficult to read because of scarring, damage by fire and other natural causes, many still represent legible names, dates, narratives, and symbols. The technique and art of the aspen carvings has remained basically unchanged for more than 100 years. The arborglyphs found at Grouse Meadows are some of the oldest known tree carvings in the U.S.

4.3.4 Criterion D

The arborglyphs associated with Grouse Meadows have the potential to yield important information regarding the past. Minimally, information regarding historic grazing practices, lifeways, subsistence patterns, economic standards, and periods of occupation can be derived from the arborglyphs. Much of the information potential found in these groves is ignored because of the difficulty in interpreting the glyphs and the absence of a unified method for feature comparison and data recovery. It is estimated that approximately 70 percent of this historic database has disappeared; the remaining 30 percent contains valuable information that will also be lost unless the information is consistently recorded and managed. Additional information is also present in historic sheep camps, artifact scatters, and activity areas.

To be listed in the NRHP, a property must also exhibit a certain level of integrity (National Register Bulletin #15). As discussed earlier, aspects of integrity include location, design, setting, materials, workmanship, feeling, and association. A summary of these elements is shown in Table 4-4.

TABLE 4-4. SUMMARY OF ELEMENTS

Aspect	Status
Location	Arborglyphs and groves represent an original location, alignment and configuration.
Design	Design elements include names, dates, personal and historic accounts presented in an idiosyncratic way.
Setting	Upper Sierra mountains and meadows; setting is reflective of traditional grazing areas.
Materials	Aspen trees are the canvas with nails and knives used for carvings.
Workmanship	Carvings reflect the original craftsmanship and design elements intended by the creators.
Feeling	The groves and aspen carvings reflect and maintain the original feeling of designing in harmony with nature.
Association	Direct association with historic sheepherding, direct association with Basque culture and experience as herders from the late 1800s to the mid-1900s

Although many of the glyphs are now difficult to read because of the organic nature of the trees (tree growth, fires, scarring of the tree, etc.), all of the glyphs reflect the original intent of the individual sheepherders.

Traditional Cultural Property

Grouse Meadows also meets the standards for a Traditional Cultural Property. Traditional cultural significance is derived from the role this grove plays in a community's historically rooted beliefs, customs, and practices. The record of individuals who have moved through this area and the observations

and representations that they left, have laid claim to this grove and created a living testament to their presence and contribution. The cultural landscape consists of the following contributing features: topography, drainage and natural features, historic use, spatial relationship and organization, views, and vegetation. Grouse Meadows is an example of a traditional grazing area that has been continuously used for sheep pasture since the late 1880s. The location of this grazing area was known and revised every year by the Basque herders. The messages left behind year after year attest to the traditional use of this meadow as a sheep grazing area. Interviews with existing herders further support the historic and cultural importance of this grazing area.

5. CONCLUSIONS

5.1 Concluding Remarks

The historic context presented in this document focused on the development of the sheep industry beginning shortly after the discovery of gold in the American West and continuing into the modern era. Although individual herders changed through time, the basic concept of open range sheep grazing and the use of aspens as a medium for personalized graffiti have not significantly changed. The current inventory for the Bridgeport facility identifies specific carvers, dates, and historic themes left on the trees. Although different geographic areas have different herders, the concept of carving, identification, and recording the arborglyphs remain the same. The study at Bridgeport clearly illustrates the importance of the arborglyphs and the critical need to systematically record and preserve the information contained on each tree. The major data gap that has been identified is the absence of a systematic survey for all DoD facilities and the absence of a systematic database for cross comparisons. The approach offered in this study presents a systematic way to record the remaining data and a context for evaluating this resource. Once the information is put on video and high-resolution film, it can be entered into an interactive database. This database can then be cross-checked with other geographic areas and used for long-term planning.

The arborglyphs recorded for Grouse Meadows represent both the oldest and largest concentration of historic arborglyphs known for the U.S. These arborglyphs date from the late 1880s and continue into the 1970s through to the present day. Themes found within the carvings include individual names, dates, economics, conditions of the grazing land, weather, personal feelings, and politics. The history provided by these arborglyphs represents the experience of common people reacting to everyday life, a perspective that is rarely found in government documents and/or historic accounts. Through the study of the arborglyphs, the complexity and duration of sheepherding practiced by the Basque becomes more textured and personalized. The sheep industry, although often under reported, was a major part of the U.S. economy during the Gold Rush period through the Great Depression of the 1930s.

Arborglyphs are unique in that they originate on living trees. These trees cannot be preserved; they eventually die, destroying the information carved in their bark. Although the numbers are unknown, it is estimated that at least 70 percent of this resource has vanished through natural causes, fires, logging, and disease. Once a tree disappears, there is no way to re-create or recover the associated carvings.

As shown in this document, groves such as those found in Grouse Meadows are eligible for NRHP nomination under Criteria A, B, C, and D. They also fit the definitions of a Historic Landscape and as a Traditional Cultural Property.

5.2 Recommendations

In the simplest form, arborglyphs are carvings left on the trunks of trees. Many of these carvings are semi-permanent messages left by sheepherders who are largely ignored in American history and who provided an important direct support to the growth and expansion of the U.S. during the Gold Rush period and into the early 1900s. The carved messages found on the aspens also supply information missing in the historic documents regarding ranching, particularly the tie between the rancher and the worker. The current study focuses on a particular subset of carvings—those created by Basque shepherds during their seasonal rounds throughout the west. The importance of these carvings is not only in the artistic and informational arenas, but in their relationship and representation of regional history and the people who lived during this period. The drawings, dates, and writings left by the shepherds provide detailed information that is generally absent in historic documents.

Basque carvings, the associated groves, and the remains of the sheep camps are cultural resources protected under the National Historic Preservation Act and the Archaeological Resources Protection Act and as such are potentially eligible for nomination to the NRHP. Individual inventories and NRHP eligibility for each DoD facility is essential for compliance with Sections 106 and 110 of the NHPA. In order to accomplish this requirement, it is recommended that the DoD installations undertake a nationwide survey of the aspen groves found within their facilities. As discussed in the historic context, there is a concentration of carved aspens in the Upper Sierras. A brief overview was conducted of known DoD facilities to determine the potential for arborglyphs on their properties. Surveys should be conducted to identify those installations that have been adequately surveyed and evaluated to prevent unnecessary duplication of work. To date, the only DoD facility that has been inventoried is the Marine Corps Cold Weather Training Facility in Bridgeport, California. As of 2007, two major groves, Grouse Meadows and Mill Creek Canyon, and a number of smaller stands have been identified. Only Grouse Meadows have been completely recorded. Approximately 1,000 arborglyphs are present in the Grouse Meadows assemblage and only 100 of them (those produced for this study) have been entered into the Access database. Additional funding will be required to complete the documentation and studies needed for the Bridgeport installation. As part of future surveys, individual DoD installations should also address the issue of integrity and significance.

Although outside the scope of the present Legacy Resource Management study, it is recommended that future studies could be funded providing:

- A compilation of all the carved words recorded so far. This handbook would be helpful for researchers or recorders who are not proficient in the culture and languages of the sheepherders. A dictionary of common names and terms would be useful for recording the glyphs in the field. Such a dictionary would have all of the names ever found on the trees.

- Development of a computer program to read and decipher highly distorted carvings, enhancing the images found on still photographs, and on videos. Depending on the condition of individual groves, the number of extremely distorted carvings can number between 7 to 10 percent. Almost all of them are over 80 years old and have the potential to provide valuable information.

The arborglyphs are an unusual and valuable cultural resource. They shed light on an aspect of animal husbandry and economic activity that traditional historic accounts largely ignore. Sheepherding was a fundamental economic activity during the settlement and development of the American West. Basque shepherds left an important and idiosyncratic record of their activities and identification information on the trees in the areas where they grazed their sheep. These carvings represent a vast unrecorded and often unrecognized source of historic information. Basque sheepherders inscribed thousands of messages and representations on aspen trees in at least 10 states from California to Montana. These carvings are "on-site" observations of direct and reliable information on the people and their culture, the time period, the sheep industry, early ranching, and day-to-day herding activities.

Very little direct evidence of more than a century of Basque sheepherding in the American West remains today. Many of the cabins that marked the sheep camps are abandoned and burned and relatively little is written about the men who occupied the fringes of society for months at a time, tending to large flocks of sheep. The direct voices of these people, the mountain archives--the arborglyphs--are subject to slow, gradual decay, and sometimes, sudden removal. Eventually every one of the carved aspens will fall, disintegrate, and return to the earth. It is inevitable that these trees will fall and that they are destined to disappear, but in the meantime there is an opportunity to record as much of the available information as possible and to effectively manage that data. The information and database can be filed and the suggested data storage methods can be implemented at local museums and at a central archival repository such as the Basque History Center at the University of Reno to allow research access and standardized updating.

The University of Nevada, Reno library site on the sheepherders of northern Nevada currently contains photographs of carvings, a database, and related stories. Future information would update and expand this file. By following consistent and suggested methods of recording these messages and having a central repository for these data, research and management can be more effectively accomplished.

Photograph 3-25 is the best specimen of a "billboard" as the three large aspens stand by the road and were carved by eight herders.

PHOTOGRAPH 3-25. THE "TRILOGY" AT GROUSE MEADOWS

To the Basque herders (past, present, and future): "*Bizi betez zuen ospe ta marrak*" (long live your memory and your carvings).

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ATTACHMENT A

Example of Intermountain Antiquities Computer System (IMACS) Site Forms

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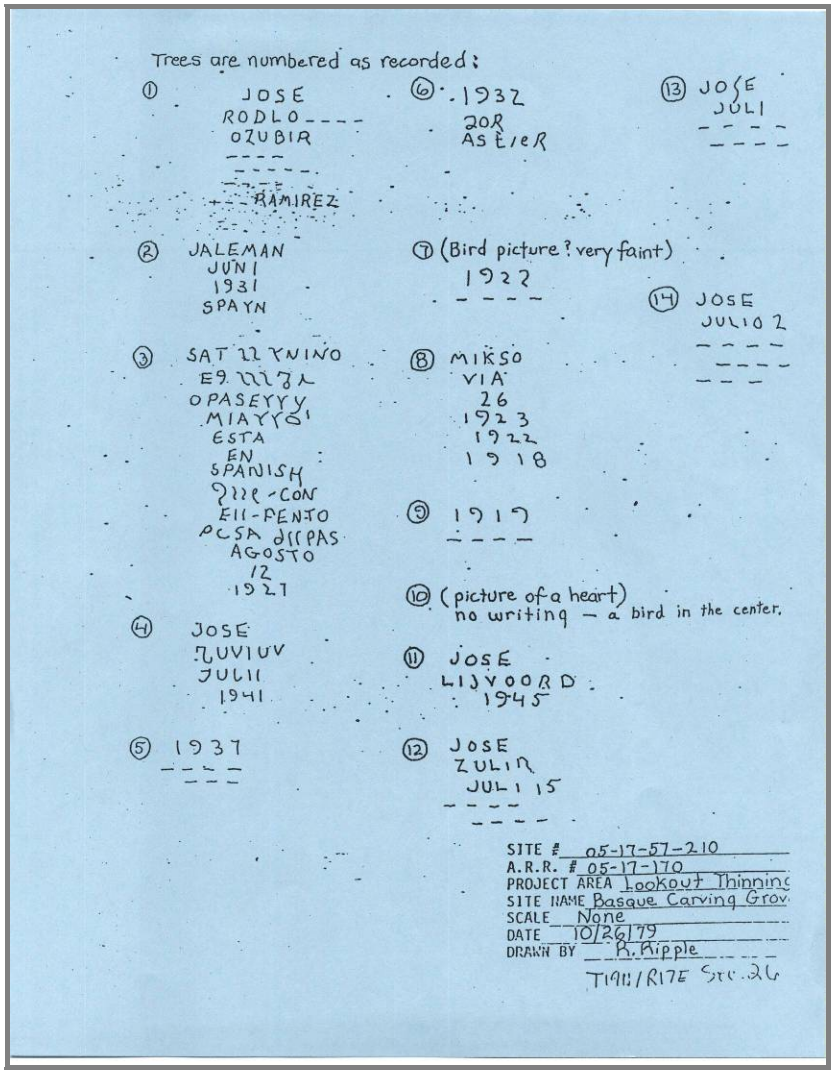
ATTACHMENT A. EXAMPLE OF INTERMOUNTAIN ANTIQUITIES COMPUTER SYSTEM (IMACS) SITE FORMS

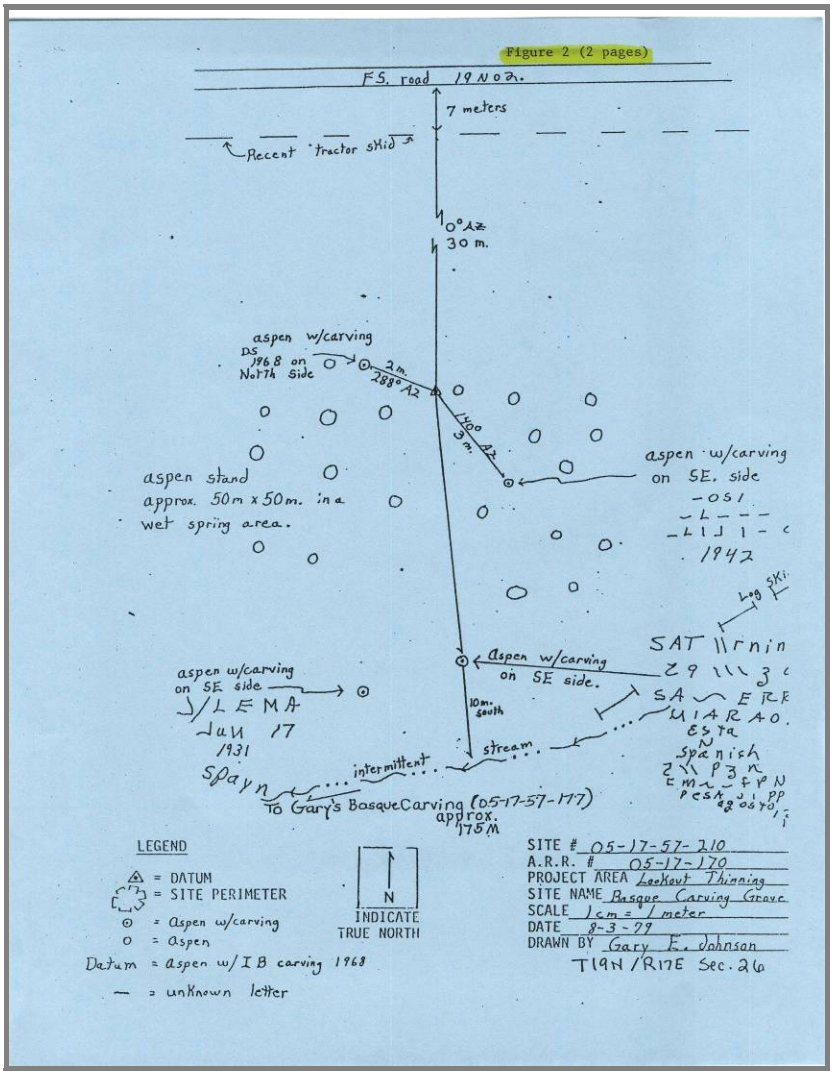
The following IMACS site sample record from Elko County, Nevada, contains a total of 36 pages, documenting an extensively carved grove. The paper record breaks down into 6 pages of text, 2 pages of maps and 24 pages of glyph sketches. Affixed to the rest of the pages are 6 black-and-white 35 mm photographs of the resources.

Out of the more than 80 inscribed trees that the team recorded, 104 carvings are hand-sketched, which must have taken a great deal of patience and time. Some carvings were misread for the simple reason that the team members did not know how to spell Basque surnames. Still other well-recorded carvings were inconsistently read. For example, a recorder stated that "pornographic art" was present, although the sketches showed nothing more than rough and imprecise nude figures. As many as 30 glyphs are not able to be interpreted due to unidentified or undecipherable content or meaning.

Normally, each tree is identified by a small circle on the map. The reading of several first names (Jose) is correct, as are the years, but only one last name (Ramirez) is correct, and "Jaleman" should be "J. Aleman." Again, the problem is not knowing the spelling of Basque last names. For example, Tree No. 2 should be "Jose Pablo Zubia," the same for Trees No. 4 and 12, although each of them was read differently by the recorder.



SITE SAMPLE RECORD FROM ELKO COUNTY NEVADA



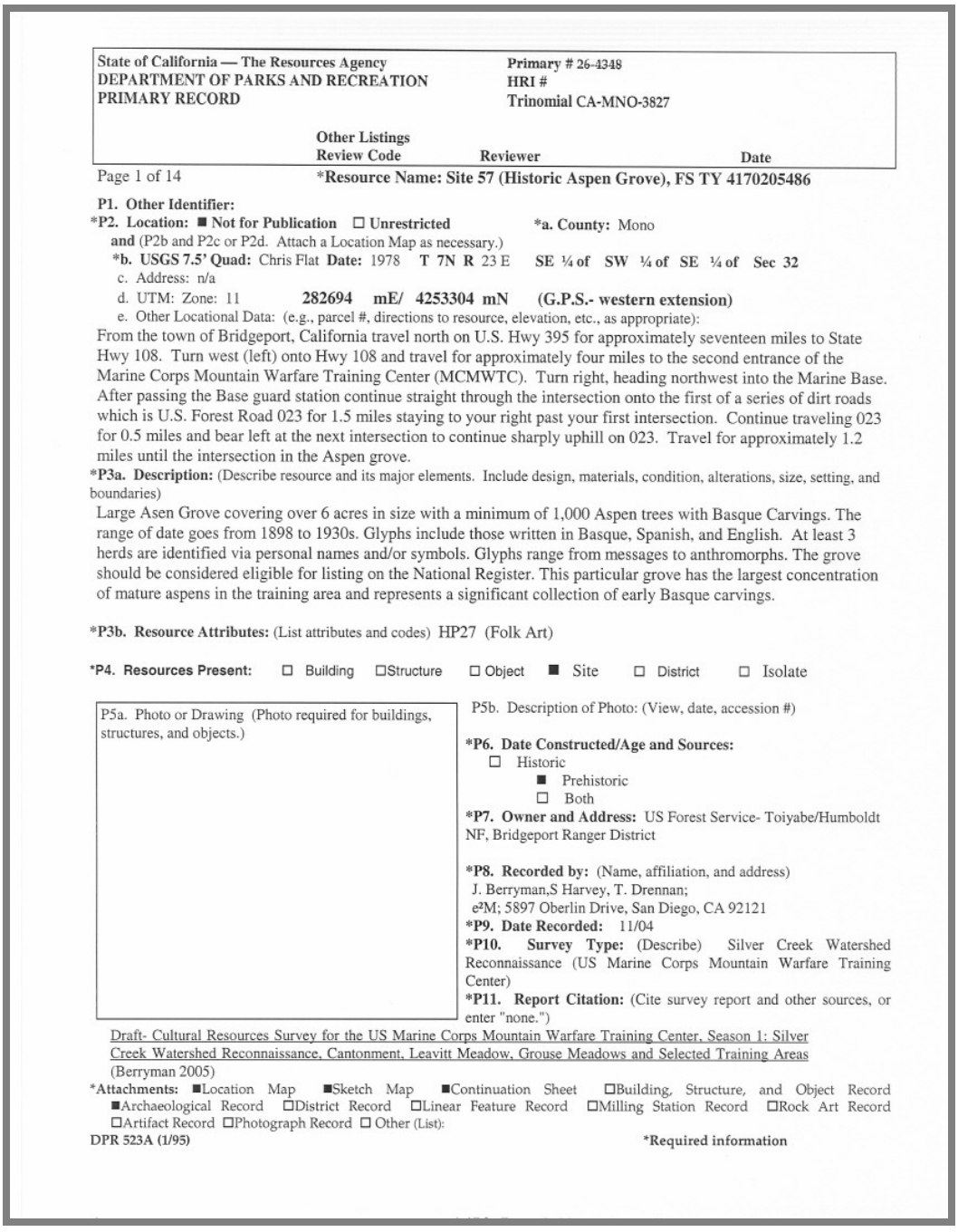
Under the National Register of Historic Places (NRHP) status section, the recorder wrote "Not eligible" because the grove, although extensive, was "typical" (but the meaning of "typical" is not defined). The recorded judged that the resource "does provide information on the historic use of the area and on ethnic participation in that use. The information...has been recorded through drawing and photography…and it is unlikely that further work at the site would provide significant additional information."

Example of Department of Parks and Recreation (DPR) Form

In California, DPR forms are used to record both historic and prehistoric sites, buildings, structures, and objects. Although the DPR forms look different from the IMACS forms, their contents and sections are generally the same. As with the IMACS form, individual trees and groves are treated as distinct archaeological sites. Elaborate mapping is part of the federal methodology and often each tree in the grove is numbered and identified on the hand-sketched map with little regard for the presence/absence

and type of information it contained. Although there is a DPR form for recording prehistoric rock art, there is not one devoted to arborglyphs.

The completed DPR form for Grouse Meadows is provided below. Although there is information concerning topographic and general location, the historic interpretations for the glyphs are not presented on the form and every individual glyph was not recorded. Visually, the attached photographs are one dimensional, again creating a problem for interpretation in a laboratory setting.



State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary # 26-4348
HRI #
Trinomial CA-MNO-3827

Other Listings
Review Code Reviewer Date

Page 1 of 14 *Resource Name: Site 57 (Historic Aspen Grove), FS TY 4170205486

P1. Other Identifier:
*P2. Location: ■ Not for Publication ☐ Unrestricted *a. County: Mono
and (P2b and P2c or P2d. Attach a Location Map as necessary.)
*b. USGS 7.5' Quad: Chris Flat Date: 1978 T 7N R 23 E SE ¼ of SW ¼ of SE ¼ of Sec 32
c. Address: n/a
d. UTM: Zone: 11 282694 mE/ 4253304 mN (G.P.S.- western extension)
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate):
From the town of Bridgeport, California travel north on U.S. Hwy 395 for approximately seventeen miles to State Hwy 108. Turn west (left) onto Hwy 108 and travel for approximately four miles to the second entrance of the Marine Corps Mountain Warfare Training Center (MCMWTC). Turn right, heading northwest into the Marine Base. After passing the Base guard station continue straight through the intersection onto the first of a series of dirt roads which is U.S. Forest Road 023 for 1.5 miles staying to your right past your first intersection. Continue traveling 023 for 0.5 miles and bear left at the next intersection to continue sharply uphill on 023. Travel for approximately 1.2 miles until the intersection in the Aspen grove.

*P3a. Description: (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)
Large Asen Grove covering over 6 acres in size with a minimum of 1,000 Aspen trees with Basque Carvings. The range of date goes from 1898 to 1930s. Glyphs include those written in Basque, Spanish, and English. At least 3 herds are identified via personal names and/or symbols. Glyphs range from messages to anthromorphs. The grove should be considered eligible for listing on the National Register. This particular grove has the largest concentration of mature aspens in the training area and represents a significant collection of early Basque carvings.

*P3b. Resource Attributes: (List attributes and codes) HP27 (Folk Art)

*P4. Resources Present: ☐ Building ☐Structure ☐ Object ■ Site ☐ District ☐ Isolate

P5a. Photo or Drawing (Photo required for buildings, structures, and objects.)

P5b. Description of Photo: (View, date, accession #)

*P6. Date Constructed/Age and Sources:
☐ Historic
■ Prehistoric
☐ Both

*P7. Owner and Address: US Forest Service- Toiyabe/Humboldt NF, Bridgeport Ranger District

*P8. Recorded by: (Name, affiliation, and address)
J. Berryman,S Harvey, T. Drennan;
e²M; 5897 Oberlin Drive, San Diego, CA 92121

*P9. Date Recorded: 11/04

*P10. Survey Type: (Describe) Silver Creek Watershed Reconnaissance (US Marine Corps Mountain Warfare Training Center)

*P11. Report Citation: (Cite survey report and other sources, or enter "none.")
Draft- Cultural Resources Survey for the US Marine Corps Mountain Warfare Training Center, Season 1: Silver Creek Watershed Reconnaissance, Cantonment, Leavitt Meadow, Grouse Meadows and Selected Training Areas (Berryman 2005)

*Attachments: ■Location Map ■Sketch Map ■Continuation Sheet ☐Building, Structure, and Object Record ■Archaeological Record ☐District Record ☐Linear Feature Record ☐Milling Station Record ☐Rock Art Record ☐Artifact Record ☐Photograph Record ☐ Other (List):

DPR 523A (1/95) *Required information

GROUSE MEADOWS DPR FORM 523A

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
Primary # 26-4348
Trinomial CA-MNO-3827

ARCHAEOLOGICAL SITE RECORD

Page 2 of 14 ***Resource Name: Site 57 (Historic Aspen Grove), FS TY 4170205486**

***A1. Dimensions: a. Length:** 453 m. n/s × **b. Width:** 322 m. e/w (+6 acres)

Method of Measurement: ☐ **Paced** ☐ Taped ☐ **Visual estimate** ■ Other: GPS mapping

Method of Determination (Check any that apply.): ☐ **Artifacts** ☐ **Features** ☐ **Soil** ☐ Vegetation ■ Topography ☐ Cut bank ☐ Animal burrow ☐ Excavation ☐ Property boundary ☐ Other (Explain): Boundaries determined by plotting the perimeter of the Aspen grove

Reliability of Determination: ■ High ☐ Medium ☐ Low Explain:
Additional UTM Coordinates: 282828mE 4253263mN (southern extension), 283011mE 4253383mN (eastern extension); 282800mE 4253667m N (northern extension)

Limitations (Check any that apply): ☐ Restricted access ☐ Paved/built over ■ Site limits incompletely defined ☐ Disturbances ■ Vegetation ☐ Other (Explain): Aspen grove with historic carvings- the outer boundaries/perimeter of the grove used; the exact number of carved trees unknown, with an estimated count of 1000 trees

A2. Depth: ■ None ☐ Unknown Method of Determination: Grove of Aspens

***A3. Human Remains:** ☐ Present ■ Absent ☐ Possible ☐ Unknown (Explain): none expected

***A4. Features** (Number, briefly describe, indicate size, list associated cultural constituents, and show location of each feature on sketch map.): Aspen grove with historic carvings- the exact number of trees unknown; evaluation and recording of individual glyphs currently being completed by Dr. Mallea from University of Nevada, Basque Department

***A5. Cultural Constituents** (Describe and quantify artifacts, ecofacts, cultural residues, etc., not associated with features.): No known associated artifacts; with heavy concentration of glyphs one would expect to find an associated Basque campsite- none was found; area requires additional documentation to determine if artifacts are present. Grove borders a large prehistoric assemblage, no evidence that the prehistoric site extends into the Aspen grove

***A6. Were Specimens Collected?** ■ No ☐ Yes (If yes, attach Artifact Record or catalog and identify where specimens are curated.)

***A7. Site Condition:** ■ Good ☐ Fair ☐ Poor (Describe disturbances.):

***A8. Nearest Water** (Type, distance, and direction.)**:** several seasonal drainages run through the grove

***A9. Elevation:** 8544; amsl

A10. Environmental Setting (Describe culturally relevant variables such as vegetation, fauna, soils, geology, landform, slope, aspect, exposure, etc.): Site located in the northern portion of Grouse Meadows. According to Dr. Mallea (UNR, Basque Department) this grove represents one of the largest intact and mature stand of aspens ranging in age to 20-over 100 years old.

DPR 523C (1/95) ***Required information**

GROUSE MEADOWS DPR FORM 523C

State of California — The Resources Agency **Primary #** 26-4348
DEPARTMENT OF PARKS AND RECREATION **Trinomial** CA-MNO-3827
ARCHAEOLOGICAL SITE RECORD

Page 3 of 14 ***Resource Name: Site 57 (Historic Aspen Grove), FS TY 4170205486**

A11. Historical Information:

***A12. Age: ■ Prehistoric** ☐ Protohistoric ☐ 1542-1769 ■ 1769-1848 ☐ 1848-1880 ☐ 1880-1914 ☐ 1914-1945 ☐ Post 1945 ☐ Undetermined **Describe position in regional prehistoric chronology or factual historic dates if known: dates based on Basque and early tree glyphs- dates ranging from 1848 to 1930s; individual Basque herders have been identified from late 1890s to the early 1940s.**

A13. Interpretations (Discuss data potential, function[s], ethnic affiliation, and other interpretations):

A14. Remarks: Tree carvings represent roughly a one-hundred year period in the story of Basque immigration to the American West, from the last decades of the nineteenth century until the 1970s. Basque sheepherders inscribed thousands of messages on aspens in ten states from California to Montana. Interest in formally recording the arborglyphs began in the late 1980s in the Toiyabe National Forest when several research grants were given by the Nevada Office of Historic Preservation and Archaeology (Mallea-Olaetxe 2000: 5).

The Basques, who call themselves "Euskaldunak" primarily entered the United States during the California gold rush. As with other immigrant groups, they made the transition from mining to other occupations, in the case of the Basque, to animal husbandry. As a result, sheep ranching in the 1860s surpassed cattle, with sheep raised mostly for the mining camps.

In Nevada and the West, the term "tree carving" usually describes aspen carving. In general, the Basque herders carved quaking aspens almost exclusively. The shepherds chose smooth, mature aspens associated with meadows and canyons, areas also suitable for summer camping. Larger trees were preferred because more detailed and larger figures could be carved with knives and other sharp tools (Mallea-Olaetxe 2000:12). A couple of years after an incision is made, the tree scars over with a black or dark-colored scar. As the tree grows, the scar widens resulting in a larger drawing. In many cases the original letters and drawings are no longer identifiable as tree growth distorts them. The identifiable glyphs include the artist name and date, trail markers, animal drawings, symbols, and female figures.

The location of the carved tree was critical: if a carver had something interesting to say, or if he were a good carver, he would find a tree by the roadside or in some other conspicuous spot that would guarantee "publicity" for his work. The more active carvers vied for strategically located aspens, those by favorite fishing holes and near sheep camps. Large, smooth trees were the most likely to become "billboards" in the wilderness . . . .[Mallea-Olaetxe 2000:23]

The primary purpose was to carve ones name and date. Another characteristic of tree carvings is the perspective. Often the entire message cannot be read or seen from one viewpoint, and it is necessary to walk around the tree. In addition, most carvings are read from the top to bottom, with the words placed in one or two vertical columns. Individual letters are positioned either vertically or horizontally. Although most messages are read from top to bottom, a number have been recorded in reverse order, with the carving going from the bottom of the tree to the top.

DPR 523C (1/95) ***Required information**

State of California — The Resources Agency **Primary #** 26-4348
DEPARTMENT OF PARKS AND RECREATION **Trinomial** CA-MNO-3827
ARCHAEOLOGICAL SITE RECORD

Page 4 of 14 ***Resource Name: Site 57 (Historic Aspen Grove), FS TY 4170205486**

The Toiyabe National Forest has a number of large historic sheep ranges particularly in Central Nevada (Austin and Tonopah Districts) and in the Bridgeport area. Beginning in the 1930s through the 1950s, Alfonso Sario and Santiago Presto used Bridgeport as their summer headquarters. Today the Iturriria Sheep Company leases their land and has taken over their allotments (Mallea-Olaetxe 2000:31).

Indepth recordings will be made by Dr. Mallea; grove is considered the oldest and largest representation of three time periods- early Basque, Spanish and English. Site appears to have the potential for NRHP eligibility.

A15. References (Documents, informants, maps, and other references):

Basque Tree Carvings in California and Nevada, J. Mallea-Olaetxe (2000)

A16. Photographs (List subjects, direction of view, and accession numbers or attach a Photograph Record.):

35mm Color Photos and Digital Format (JPEG)

Original Media/Negatives Kept at: Marine Corps Base Camp Pendleton, Environmental Security

***A17. Form Prepared by:**

Judy Berryman, Steve Harvey, Trisha Drenna
Date: 11/04
Affiliation and Address: e²M; 5897 Oberlin Drive, San Diego, CA 92121

DPR 523C (1/95) *Required information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
CONTINUATION SHEET

Primary # 26-4348
HRI#
Trinomial CA-MNO-3827

Page 6 of 14 ***Resource Name: Site 57 (Historic Aspen Grove), FS TY 4170205486**

Selected examples of Basque arboglyphs on aspen trees at Site 57.

***Recorded by:** J Berryman, e²M
DPR 523L (1/95)

***Date:** 11/04 ■ Continuation ☐ Update
***Required information**

GROUSE MEADOWS DPR FORM 523L

ATTACHMENT B

The Untold Story of Sheepherders in Western USA: A Survey of Their Tree Carving Legacy

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ATTACHMENT B. THE UNTOLD STORY OF SHEEPHERDERS IN WESTERN USA: A SURVEY OF THEIR TREE CARVING LEGACY

THE UNTOLD STORY OF SHEEPHERDERS IN WESTERN USA:
A SURVEY OF THEIR TREE CARVING LEGACY

A Department of Defense Legacy Project
REPORT

By
Joxe Mallea-Olaetxe Ph.D.
jmallea@charter.net

e2m Project Number 4278-001-XX-XX

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CONTENTS

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20 single-spaced pages
Plus 3 Inserts (7 pages)

1. Short Historiography

According to professors Mary Kalantzis and William Cope, cultural diversity and multicultural education not only pose "some of the biggest challenges for academe," but they are also "high on the agenda of almost every campus in the United States."[1] The present project falls squarely within such parameters, but the subject is so one-of-a-kind that a few notes and caveats about history and history writing are in order.

In his Pulitzer Prize winning and bestselling book *Guns, Germs, and Steel* Jared Diamond stated that history should be treated--and written--as a science, and by that he appears to be expressing a profound trust in science. We would all like to believe that science is without pitfalls and shortcomings, but is it so? If we take medicine as an illustration, we are all aware of the long-running controversy over H.R.T., not to mention the lawsuits against pharmaceuticals, and news of pills ordered off the shelves by the F.D.A. In a recent article on epidemiology Gary Taubes casts a skeptical light on the limitations of scientific methodologies and he sums up by saying that the conclusions are a toss-up.[2] Most eminent authorities sometimes cannot agree on basic tenets, for example, one of the world's most renown scientist, James D. Watson, was recently fired for saying that race and intelligence are correlated. Diamond's idea is commendable; we should always strive for exactness, and quantification and statistics are nothing new in history-writing, but if scientists have such difficulty on agreeing on cold, quantifiable facts, it will be a while before historians can seriously start treating their craft as an exact science.

The more history one reads the more inescapable it is the realization that it was—and still is—written with a bias. The "accepted" interpretation of an event still favors the winners rather than the losers. It endorses the majority rather than the minority, which seems fair enough, but it similarly caters to the dominant group/s, that may be engaged in suppressing the voice of others. History is rifled with controversies, and famous men—many of them well-regarded historians--have contributed their share. Allan Bloom, for example, said bluntly that Western culture was superior to all others. How do you apply scientific principles to that? D.H. Lawrence in "Studies in Classic American Literature" penned the idea that "The essential American soul is hard, isolate, stoic, and a killer."[3] How many Americans would agree with that? How many of us see ourselves in such a light?

In most cases, we would be best served by admitting that historical truth lays somewhere 'in the middle," that is, nobody owns the whole truth, because neutrality and impartiality do not come naturally to humans. Having said that, we can easily understand why certain human endeavors might receive great exposure, while others are neglected. The sheepherders would be a prime example of the latter treatment. What's the reader to do? Curtis A. Wilgus has advice for us: become a historian; historians write history, and change it, as well.[4]

That is in essence what we are attempting to do with the present research: to bring attention to a subject that has received scant historical coverage, namely, the arborglyphs, which constitute an integral part of the history of sheepherding in the American West. Though a small portion of the arborglyphs carved by the sheepherders across the West has been documented, to this day the immense majority remain unrecorded.

In addition, the present research on arborglyphs puts a new spin on history-writing and historiography in general, because unlike in the case of 99.99 percent of the cases, our primary sources are not located in archives and in cities. They are in the mountains. Yes, they are literary sources, but rather than written on paper, they are carved on trees. And here is a third spin: The

carvings are the work of common people (sheepherders), and if the past is any indication, historians have little taste for anything plain and simple. They much prefer epic descriptions of wars between kings and their generals who produce the heroes we love and the villains we hate. If you turn on the TV or the radio, or open the first page of your local paper, you will notice that not much has changed today.

There is one other final and most interesting aspect about this research that defies and contradicts the norm. To put it bluntly, history has never been democratic; it has not been of the people, for the people, by the people. But arborglyphs are just that, all of that, and nothing but.

2. America's Forgotten Sheepherder

The topic, especially when compared with another closely related topic--that of cattle ranching and cowboys--offers about the best example of historical and cultural neglect. The cowboys have been overexposed and overblown in literature, perhaps at the expense of its twin economic activity, sheepherding and sheepherders. This project seeks to help remedy that situation.

Sheepherding was a fundamental economic activity during the settlement and development of the West, but you will be hard-pressed to find information in history textbooks about sheepherders. Those who bore the brunt of the labor force were foreigners, immigrants, and members of minority groups, which constituted a triple historical handicap, that is, neither the academia nor the media were going to cover their story. We hear often that this is a country of immigrants and a melting pot of diversity—and it is—but you would not know it by reading mainstream history. Minority and race were often equated, and according to Pulitzer Prize winners Gene Roberts and Hank Klibanoff, the race issue was paramount in the twentieth-century, but in was not covered. How is it was possible—they ask--that the media could ignore millions of Blacks and other groups living among the Whites?[5]

Professor Ronald Takaki in his *A Different Mirror: A History of Multicultural America* deals eloquently with the traditional neglect, if not disdain of Euro-American society towards non-whites and minorities. Our Constitution and our laws were most noble, but preaching and practice became two different animals in the country. I must add that in his book Takaki deals with urban minority groups, and naturally, the sheepherders fell outside his radar.[6]

The sheepherders, most of them Basques from the Pyrenees Mountains of Western Europe, presented the easiest target for discrimination, because they were among the smallest minorities in the country. But rather than discriminated against, I think they were simply overlooked. Who knew they existed? They were almost invisible, yet they and their chargers covered the western landscape. The lived in the wild country, they belonged to the wild country, far from urban areas, and there lays the real reason of their invisibility. History is made in town, the seat of government, rulers, and politics. The sheepherder avoided urban areas out of necessity, and by the same token, history avoids sheepherding. But that is surprising, because culturally historians pay homage to the British Islands and the English people, who love sheep—just as the Scots, the Welsh, and the Irish do.

There is another reason why ignoring the sheepherders amounts to going against the historical grain. In Capitalistic America we often hear that "money talks," but it seems that the saying does not apply to the sheepherders. Have we ever stopped and consider the capital and the investment that each herder was entrusted with? Many herders arrived in California directly from the Pyrenees and they knew nothing about America or the way sheep were herded here. As soon as they stepped off the train, before they could have a drink at the local Basque boardinghouse, the sheep boss gave them "2,000 sheep, a dog, a donkey, and a rifle," and--as one

sheepherder put it-- "you were on your own."[7] It would not be an exaggeration to say that the owner was betting his ranch when he put 2,000 ewes in the hands of someone he hadn't met yet. It seems almost too crazy to believe it. Would the jewelry store owner hand the keys to a brand-new employee? These immigrants who didn't speak English and didn't know the laws of the land were actually entrusted with millions of dollars.

Until the Depression sheep was big business in Western USA, because it provided meat and wool, a strategic material controlled by the federal government. The dry nature of the western range was well suited for the wandering instinct of sheep. In the 1860s, sheep production in California was over six million, larger than that of cattle.[8] By the early 1900s, Idaho, Utah, Wyoming, Montana, New Mexico, and Colorado had millions of sheep each. Even barren Nevada had over a million. In the 1940s Texas had eleven million sheep. Today the industry is drastically reduced in the US, but China boats 170 million, and Australia and New Zealand over 140 million according to Wikipedia. The importance of sheep in human history cannot be overstated, after all the domestication of sheep and goats signified a drastic transition from hunter-gatherer culture to one of herding, which led to agriculture and to urban settlement. Today millions of humans still herd sheep just like they herded 10,000 years ago, and they still depend on sheep as generations of their forefathers always had.

Millions of sheep played their part in the developing of the American West which in historical terms began in New Mexico in 1989 with the Adelantado Juan Oñate. Their worth fluctuated according to the market, but if we tack so many dollars per head, we conclude that each heard was probably worth thousands of dollars, even in the 1800s. At $5 a head—a rather low figure--we are talking about approximately $10,000 a herd of sheep, a fabulous sum.

Lastly, by the late 1800s the Basques were regarded as *the* sheepherders of the American West, and Nevada sheep operators like Clel Georgetta and Reginald Meaker considered them to be the best in the business.[9] The sheep industry in the Western US was so dependent on Basque labor that in 1952 U.S. Congress passed special laws to allow Basque immigration outside the established national quotas.[10]

3. The World of Arborglyphs

If historians are generally silent about sheepherding, their neglect of arborglyphs is abysmal. The most logical explanation is that nobody thinks of going to the mountains to read trees. Yet, very probably trees were among the first nature-made drafting media, thousands of years before humans started painting/carving in cave walls and a long time before the first attempt at cuneiform script. White bark trees like aspen, beech, and alder, wherever available, were ready drawing boards for humans to scribble something on. Hunters chasing their prey or just wandering in the forest left figures of animals and other signs and messages to mark their territory.

I always wondered why we hear so much about Indian petroglyphs but almost nothing about their arborglyphs. Many Indian tribes in the East and South had beech and similar smooth-barked trees available, which were far easier to carve than rocks. It turns out that they did. According to Lamar and Kathleen Marshall, "The American Indians have forever carved sacred and utilitarian signs and messages in the sleek bark of beeches and other trees."[11] Thus, we can conclude that if trees lasted as long as rocks, we would have few petroglyphs and millions of arborglyphs all over the world. Indeed, we do have millions of tree carvings in the world, but they are too ephemeral, they are "out there," and they just don't get recorded.

Carving trees is much easier than chiseling rocks. Any blunt or sharp object can serve to scratch the bark. The aspen is especially soft, and you can inscribe it with your thumb nail. Ex-herder Jean Lekumberry of Gardnerville, Nevada, said that a ten penny nail was the best tool for carving trees, but the pocket knife was the sheepherders' favorite.[12] In the mountains of the West the aspen is the one tree that can be singled out for its fall colors and its smooth greenish-white bark. It is the sheepherders' indispensable tree, for camping under its cool and shady canopy, and especially because it became their confidant and shrink. Before carving, the herder picked the best tree around, usually a mature and clean tree. He never carved or blemished scarred bark.

The preferred subject was unquestionably himself, his name, the current date, and year, and if he felt communicative his hometown or country. Number two was his work, the vicissitudes of sheepherding, which included pasture, weather, wages, quarrels with co-workers and so on. Intimately tied to that were the themes of loneliness, of being utterly alone physically and emotionally, and inherently linked was sexual deprivation and the longing for female companionship. Those are the major topics, but the one I call "Personal Statement" is also important. There were herders with a keen eye for the world around and eager to learn about America and its culture, and they carved statements on a great variety of subjects, whether politics, news from the Old Country, visiting a town and the women, spending too much money, and so on. Finally, there is art, consisting mostly of figures of women and men (self-portraits), animals, and such symbols as stars, flags, crosses, and hearts.

Roman writer Ovid told us that lovers carved their names on trees and that hasn't changed as of 2007. When in 1805 Lewis and Clark reached the Pacific Ocean near the mouth of the Columbia River, one of the first things Clark did was to carve his name on an alder tree and date it, and the whole party proceeded to imitate him by carving their initials on adjacent trees. What a revealing gesture! Clark didn't carve the alder because he was out of paper. He kept a diary and had paper to write on, but having wandered on the great western outdoors for months, carving a tree came to him naturally, and it was perhaps more meaningful as well. In fact he didn't carve just this one tree in Clatsop Country, he carved others as he trekked across the continent.[13]

As universal as tree carvings might be, the literature on the resource is rather sketchy, though in the last couple of decades interest on the phenomenon has spread considerably, peaking—so to speak—in the 2005 Tag Conference in UK's Sheffield University. The Center for Basque Studies at the University of Nevada Reno has been the leading institution supporting research on arborglyphs, and since 1988 I have accumulated over 25,000 records of aspen carvings in video form and still photographs. In 2000, the University of Nevada Press published the results of these investigations, which is the first systematic and comprehensive study of the resource.[14]

Of course, it was not the first publication, nor the first book. There are actually over forty different publications on the subject, most of them short articles accompanied by photographs, because the main attraction was the art of the sheepherders, especially the female nudes and animals. Some regarded the art as "Picassoesque" while others called it "doodlings." But the art form is a very small part of the phenomenon, only 5 to 10 percent of the carvings, depending on location. Few of these authors stopped to read the inscriptions, probably because they did not understand them. In 1969, Jan Harold Brunvand and John C. Abramson of Utah published a more substantial study, but they still regarded the carvings as doodlings. In 1970, the Museum of New Mexico Press published the first book on the subject, which contains only four pages of

text. It is devoted to art rather than history, and sixty-one large photographs of carvings in New Mexico's Carson National Forest fill the book.[15] About the same time, Richard Lane was doing research on Elko Nevada sheepherders, and during his forays into sheep camps, he could not avoid seeing arborglyphs. In Lane's article, "Basque Tree Carvings," published in 1971, he identified some of the same topics others before him had, such as ethnic identity, towns and provinces, human figures, stars, and whores. He wrote that the carvings were "only a small part of the necessary evidence" and he did not use any of it in his dissertation.[16]

Later in the 1970s, David Beesley and Michael Claytor covered thirty groves in several Eastern California counties and published the most detailed study, but they, too, were seduced by the art rather than by the textual matter. However, six important topics they correctly identified in California are applicable to Nevada, Oregon, and Idaho and possibly elsewhere as well.[17] Also noteworthy is the work of James Snyder, historian of the Yosemite National Park in California. He and his collaborators recorded over 1,000 trail blazes within the park, which consisted mainly of initials and dates, but rarely full Basque names and statements prevalent elsewhere. He also recorded early dates carved on pine, some going as far back as the 1850s.[18]

The work of archaeologists and historians in two federals agencies—the U.S. Forest Service (FS) and the Bureau of Land Management (BLM)—deserves special mention because throughout several decades, albeit intermittently, they conducted most of the field research by photographing the carvings and reading as many as they could. It must be acknowledged that lacking trained personnel with knowledge of Basque, Spanish, and French was a major handicap for them. Some districts made much more serious efforts to save the data than others. I am more acquainted with the work of archaeologists within a one-hundred-mile radius of Reno, Nevada, including those in the Sierra Nevada districts as far south as Bishop and Susanville to the north in California, as well as those of all of northern Nevada, southeast Oregon, and the Boise, Idaho, area. The majority of the 25,000 arborglyphs recorded by Mallea-Olaetxe come from these areas. In addition, Forest archaeologists and historians in several districts throughout the West have made special efforts to record the carvings.

Linda Farnsworth, archaeologist of the Cocomino N.F., Flagstaff District, Arizona began documenting the arborglyphs in the San Francisco Peak area in 1996, and, working with senior volunteers of the Elderhostel Program, recorded more than 2,000 carvings, which until the 1960s and 1970s had been inscribed by Basques and by Mexicans later. The San Juan Mountains of Durango (Colorado) is another area where the carvings have been recorded by the FS and by collaborating volunteers. In Wyoming the Office of Historic Preservation (SHPO) gets all the arborglyph data recorded in the state and thousands have been entered in the general computer database according to SHPO's Mary Hopkins. In Montana there seems to be less awareness of the resource and fewer carvings as well.[19]

To this I should add the efforts of dozens of individuals, hikers, conservationists, and hunters who on their own have photographed the arborglyphs all over the western range and shared the data with me. Almost every week, I receive e-mails from individuals who discovered carvings in various places, or who have recorded a few tree carvings. As of late, southern Utah has yielded sheepherder arborglyphs and petroglyphs.[20] My favorite artifact is a metal plate found in the San Juan Desert by Jim Elder of Ottawa, Canada, totally inscribed on both sides with very funny and interesting information.[21] I recently learned of the endeavors of Lamar Marshall and others in Alabama and the Southeast to record and save the "Witness Trees," which are mostly beech trees bearing glyphs of Indian origin. In late November 2007, Chris Worrell of Ohio called to share some of his two hundred photos of tree carvings he found in the state.

I would like to single out E. Loren Kingdom of Greenville, California, who crisscrossed the Plumas National Forest recording aspen carvings that yielded five hours of quality video. He saved hundreds of glyphs—indeed, he read them pretty well--and dozens of herders' names for history. I also know that Rikard Andersson of Sweden wrote a doctoral dissertation on the arborglyphs he found in his country. According to him there are many glyphs in Finland and other Scandinavian forest areas.22 I should not forget to mention that the Basque Country in not devoid of tree carving activity. I myself have seen dozens of carvings on beech trees in sheep grazing areas and also by popular mountain trails. One sheepherder from Nevada went home to get married and carved his name and that of his fiancé on a large beech high in the Basque mountains.

But the list of arborglyph lovers and researchers is much longer, no doubt, and it comprises many other states and countries in North America and Europe, if not the world. It would be interesting to conduct a global search to find out what primary themes people tend to carve about, or the correlation between tree art and tree text. There is much we don't know, yet it appears that serious studies and systematic recordings of tree carvings are still a rarity.

4. Past Methodology

The many individuals who went on a hike, or on camping trip, and shot a few pictures of the arborglyphs and subsequently published them in a local magazine, or newspaper, did it mostly out of personal enjoyment or curiosity. For example, Philip and Jean Earl of Reno started searching the groves in the early 1970s primarily for figures they could take rubbings of on muslin cloth. Eventually, they assembled an impressive collection of sixty to seventy large and small rubbings, and they became experts of this most-unusual art. The majority of these aficionados had no further agenda and they were not interested in studying the glyphs systematically. To be sure, it was difficult to study them when you could not read nor understand so many inscriptions. Beesley and Claytor drew a few obvious conclusions from their recordings, but apparently made no effort to frame the data against the larger history of the American West or to import their results into mainstream constructs and forms used in academia and by scholars in the fields of archaeology and ethnohistory.

That responsibility fell to the federal historians and archaeologists. They were the managers and guardians of the great majority of the arborglyphs in the West, and, in fact, under the rules and guidelines of the National Register, it was their job to assess the historical, cultural, and artistic value of the tree carvings, which, to a certain degree, they did. However, it didn't used to be easy to access their information or to find out what exactly the FS and BLM people have done with the carvings. For example, I am not aware if the agencies had an official policy—regional or national--regarding the arborglyphs. There seems to be considerable disparity from district to district. Some of them did more than just record the carvings; they published and disseminated the findings at conferences or archaeological meetings, as did the Sierraville District of Tahoe National Forest of California, and there were others.[23]

Every FS and BLM district is semi-autonomous, and the archaeologists and historians exercise considerable independence. In 1989-90 when I inquired on the feasibility of a joint effort by the two federal agencies in adopting a common system of recording the arborglyphs, the idea was regarded as wishful thinking. I was told by several archaeologists that it was a futile pursuit, because thes two agencies had their own separate programs. Nevertheless, I found out that FS and BLM did cooperate. For example, in Eastern Nevada I was allowed to drive a BLM

truck to do research in FS groves. It seemed to me that the two agencies interacted well, at least in eastern Nevada (Elko and White Pine Counties). But sadly, no joint action to salvage the fast-disappearing arborglyphs has become a reality yet.

The FS and BLM offices were staffed mostly by archaeologists (and occasionally a historian) and naturally they adopted archaeological methods, procedures, and forms to deal with the arborglyphs. From my earliest meetings with them, I received the impression that they were interested in locating the arborglyps and in managing them. They seemed to regard them as pure artifacts, and that is why they stressed the use of forms and maps. I, on the other hand, am a historian, and for me they were first and foremost historical documents.

From what I am able to learn, some federal districts began recording the arborglyphs in the 1970s (in Wyoming and California) or later. The aspen groves were treated as archaeological sites. The glyphs were photographed with still cameras and patiently hand-sketched on paper, even though their meaning was often not understood. The methodology relied heavily on paperwork, requiring one Intermountain Antiquities Computer System (IMACS) form per each recorded site, which could have been as large as eighty trees or as small as six. The IMACS Guide contains instructions and computer codes, but it has not been updated since 1992. This form is approved for use in the following areas, which, by-the-way, contain arborglyphs:

- **Utah** BLM, NPS, USFS administered lands, and state lands.
- **Idaho** BLM administered lands (except northern Idaho). All Region-4 National Forests (Payette, Boise, Salmon, Challis, Caribou, Sawtooth, Targhee NFs), and state lands.
- **Nevada** BLM and USFS administered lands, and Department of Highways lands/projects.
- **Wyoming** Targhee and Bridger-Teton National Forests, and all BLM and NPS administered lands.
- **California** Humboldt-Toiyabee National Forest.

The IMACS website lists many archaeological artifacts that are normally recorded, such as nails, cartridges, projectile points, flakes, cabins, tin cans, bottles, shoes, ceramics, buttons, and petroglyphs, but there is no mention of arborglyphs.[24] The following are the main sections of an IMACS form:

* The first pages are called Part A or Administrative Data, with the description of the site, name, and the location.

*The map of the location, with a dot (.) indicating the site. Mapping may include UTM coordinates (or GPS).

*A hand-sketched map.

*A circle drawn on the map comprising the site and detailing the trees within, each one numbered in order to link them to the photographs.

*A drawing of the actual glyph on the tree that may be either elaborate or sketchy.

The following IMACS site sample record from Elko County, Nevada, contains a total of thirty-six pages, indicative of an extensively carved grove. The paper record breaks down into six pages of text, two of maps and twenty-four of glyph sketches. Affixed to the rest of the pages are six black-and-white 35mm photographs.

9

Figure 1: Four sample pages of an IMACS site record, Humboldt-Toiyabe NF, Elko County, NV, 1992).

10

Figure 1 (4 pages)

Agency No: HM-1598

IMACS SITE FORM
PART A - Administrative Data

* 1. State No.:

* 2. Agency No.: HM-1598

3. Temp. No.: IM-13

4. State: Nevada County: Elko

5. Project: Independence Mine

* 6. Report No.: HM-92-0563

7. Site Name:

8. Class: ___ Prehistoric _X_ Historic
___ Paleontologic ___ Ethnographic

9. Site Type: Aspen art

*10. Elevation: 7370 ft.

*11. UTM Grid Zone 11 584244m E 4573666m N
583895m E 4573382m N
583711m E 4573443m N
583981m E 4573579m N

*12. SW of NE of SW of Section 34 T. 40N R. 053E
SE of NE of SW of Section 34 T. 40N R. 053E
SW of NW of SE of Section 34 T. 40N R. 053E
NW of SE of SW of Section 34 T. 40N R. 053E
NE of SE of SW of Section 34 T. 40N R. 053E
NW of NW of SE of Section 34 T. 40N R. 053E

*13. Meridian: Mt. Diablo

*14. Map Reference: Mahala Creek West, Nevada 7.5

15. Aerial Photo:

16. Location and Access: From Hwy 225 at Spruce Road in Elko, go 35.7 miles to the Saval Ranch turnoff. Go west 6.4 miles on the gravel road to the foothill road intersection. Proceed 3.6 miles to a merger of Road Canyon Creek and Gance Creeks. Follow the lower fork (on foot) (Road Canyon Creek) for 1.5 miles to site.

*17. Land Owner: USDA Forest Service

Agency No: HM-1598

*18. Federal Administrative Units: Humboldt National Forest

*19. Management Unit (USFS only):

20. Site Description: The site is an extensive (240 x 20 m) grove of mature aspen trees with 80+ inscribed trees. The inscriptions include both text and figures. Many of the text inscriptions are in Basque or Spanish and include both names and dates. The dates range from 1911 to 1990. Figures include male and female pairs, female nudes and animals. Most of the pornographic art is modern but a few examples from the 1930's are also present. The site occupies the bottom of a WSW portion of Road Canyon.

*21. Site Condition: Excellent

*22. Impact Agent(s): Grazing

*23. National Register Status: Not Eligible

Justify: While the site is extensive and contains a large number of carved trees the range of themes is essentially typical of such sites in the region. It is not eligible under criteria a - c as it is not associated with persons or events of historical significance, nor does it represent the works of a master or possess highly artistic values, etc.. It does provide information on the historic use of the area and on ethnic participation in that use. The information which could be recovered from the site has, however, been recorded through drawing and photography of the carved trees and it is unlikely that further work at the site would provide significant additional information.

24. Photos: BW roll #19 exp. 2-36A BW roll #20 exp. 28-36
BW roll #26 exp. 1-36 BW roll #27 exp. 3-36A
BW roll #30 exp. 2-33

25. Recorded by: V. Casados

*26. Survey Organization: Western Cultural Resource Management

27. Assisting Crew Members: B. Walsh

*28. Survey Date: 9-13/14/15-92

*29. Slope 5 (Degrees) Aspect 240 (Degrees)

*30. Distance to Permanent Water: 0

Type of Water Source: Spring/Seep
Name of Water Source: On road Canyon Creek
Distance to Nearest Other Water Source/Type: Unnamed spring

Agency No: HM-1598

*31. Geographic Unit: North Fork Area

*32. Topographic Location:

Primary Landform: Canyon
Secondary Landform:

Describe: Site occupies the bottom of a west southwest trending section of Road Canyon.

*33. On-site Depositional Context: Colluvium

Description of Soil: Colluvium and stream deposited rounded gravels with layer of dark brown humic loam.

34. Vegetation:

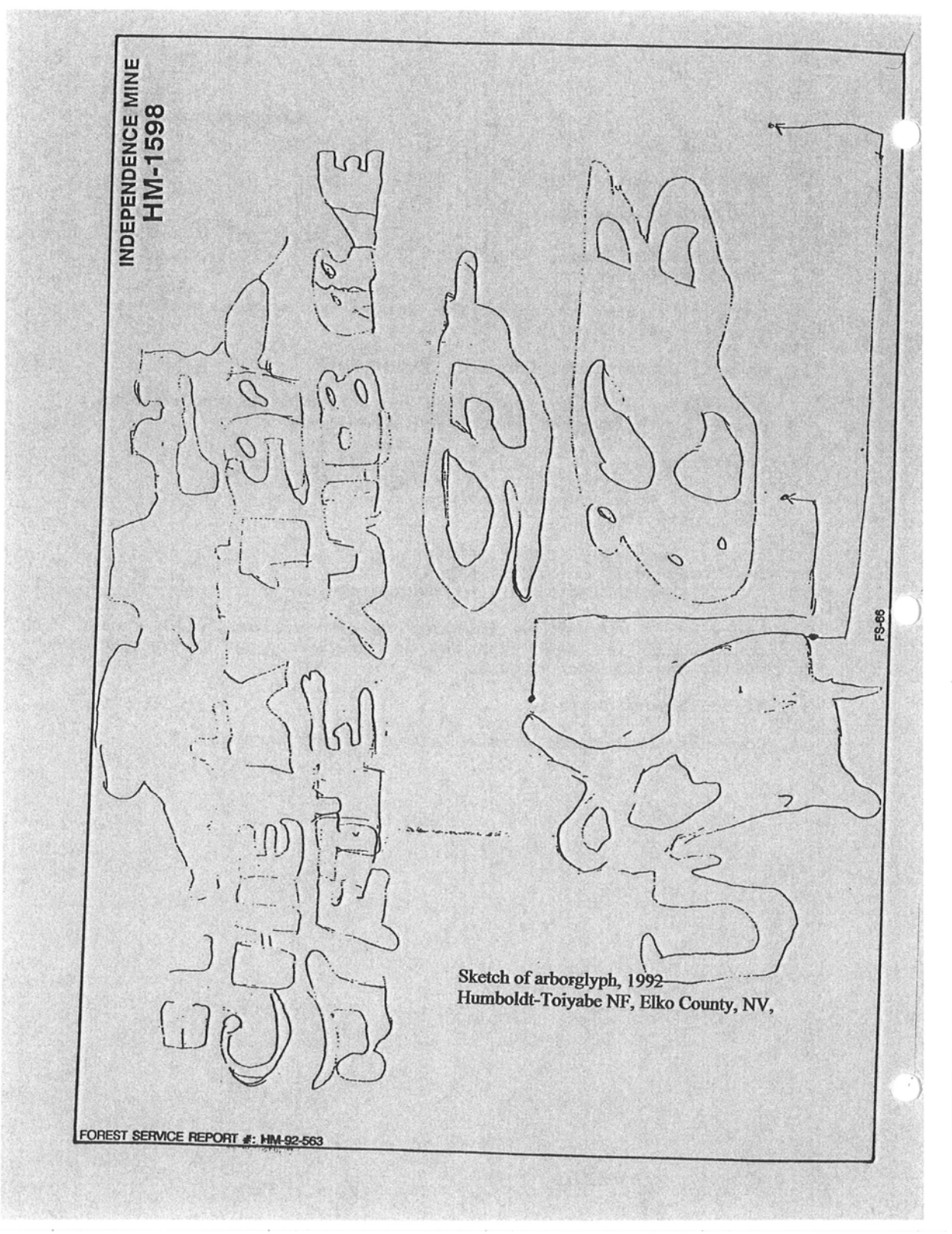
*a. Life Zone: Upper Sonoran
*b. Community:

Primary On-Site: Aspen
Secondary On-Site: Aspen
Surrounding Site: Low sagebrush

Describe: Vegetation includes aspen, willow, wild rose changing to low sagebrush and service berry up the canyon walls, and 50% open ground.

*35. Miscellaneous Text:

36. Comments/Location of Curated Materials and Records:



Sketch of arborglyph, 1992
Humboldt-Toiyabe NF, Elko County, NV,

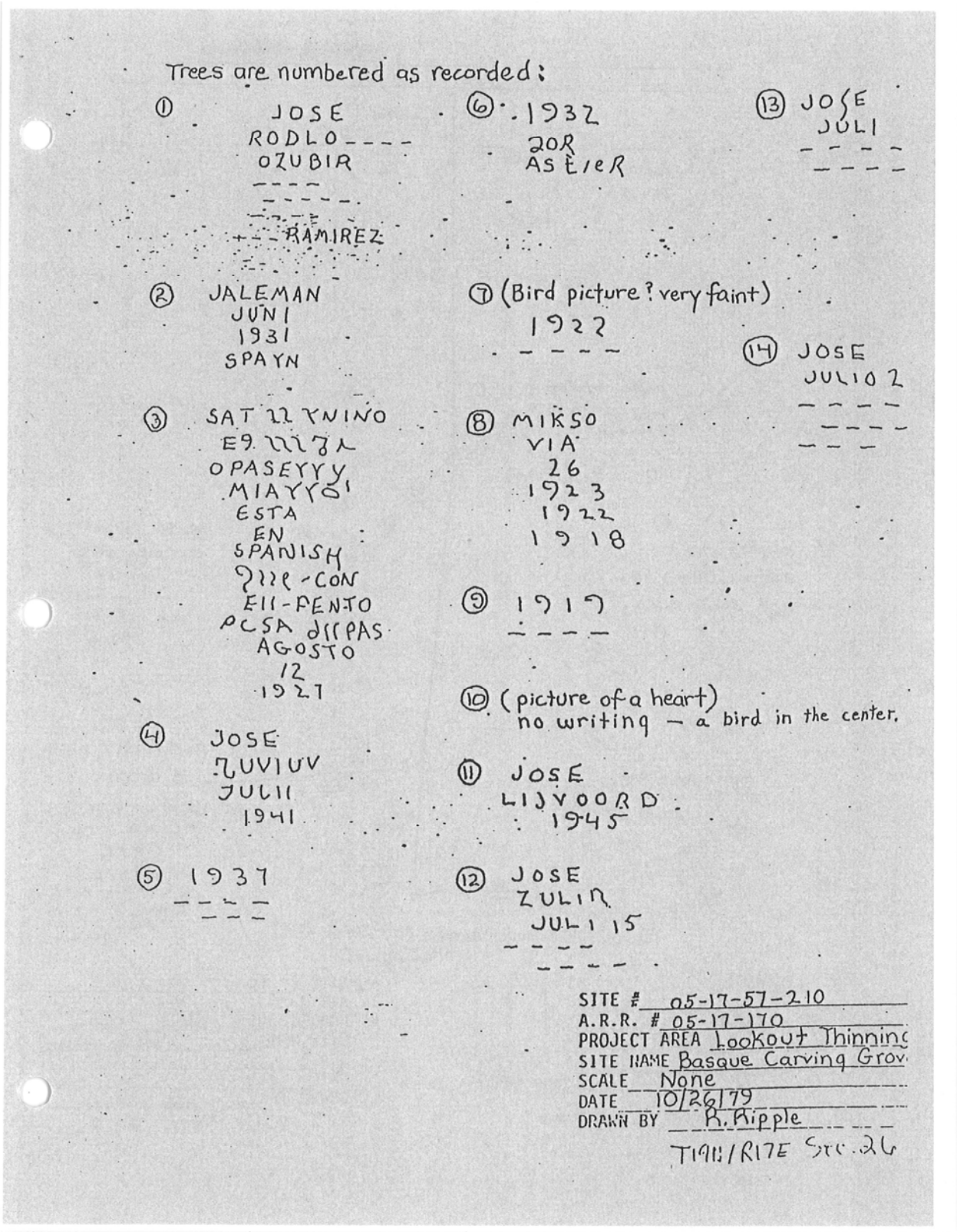
The recorder's name (Casados), is Hispanic and he may have benefitted from his knowledge of the Spanish language. Out of the eighty plus inscribed trees that the team recorded, 104 carvings (it is difficult to be precise) are hand-sketched, which must have taken a great deal of patience and time. Overall, the team did a fairly good job, though as many as thirty glyphs are totally meaningless or nearly so, because you cannot get any information from them. Others are misread for the simple reason that the team members did not know how to spell Basque surnames. Still other well-recorded carvings are inconsistently read. Mr. Casados stated that "pornographic art" was present, though the sketches showed nothing more than rough and imprecise nude figures.

Under the National Register Status section, the recorder wrote "Not eligible," because the grove, though extensive, was "typical" (but the meaning of "typical" is nowhere defined). He correctly judged that the resource "does provide information on the historic use of the area and on ethnic participation in that use. The information...has been recorded through drawing and photography…and it is unlikely that further work at the site would provide significant additional information."

That's a misconception. The information Casados recorded could have been enhanced by simply taking a trip to the nearest Basque Hotel, or paying a visit to the local rancher who held the grazing allotment. Chances are very good that at the Basque hotels in Elko, Nevada, someone could have provided further information on some of the herders who left their marks on trees. Furthermore, just about any Basque could have corrected the misread surnames in the site records.

Except the Humboldt-Toiyabe N.F., the state of California uses the DPR523 (a-l) forms. According to State Historian II Joseph Dole of California SHPO, "The DPR523 series continues to be the standard in California.... Although there is not a form for arborglyphs, the DPR 523 a,c, with some accompanying i,j,k, and l forms could document it reasonably."[25]
In the 1980s and 1990s some California districts also used a computerized form called Minark, which did not work out too well.[26] Most of the site records in my possession also have the heading "California Permanent Trinomial." Though these forms look different from the IMACS, their contents and sections are in fact the same. Here is a sample of California site record:

Figure 2: A sketch map and the 12 glyphs in it (Tahoe NF, Nevada City, CA, 1979).



Trees are numbered as recorded:

① JOSE
RODLO----
OZUBIR

RAMIREZ

② JALEMAN
JUNI
1931
SPAYN

③ SAT 22 YNINO
E9 2227 L
OPASEYYY
MIAYYO!
ESTA
EN
SPANISH
9222-CON
EII-PENTO
PCSA dIIPAS
AGOSTO
12
1927

④ JOSE
ZUVIUV
JULII
1941

⑤ 1937

---

⑥ 1932
20R
ASEIeR

⑦ (Bird picture? very faint)
1922
----

⑧ MIKSO
VIA
26
1923
1922
1918

⑨ 1919
----

⑩ (picture of a heart)
no writing – a bird in the center.

⑪ JOSE
LIJVOORD
1945

⑫ JOSE
ZULIN
JUL 15

----

⑬ JOSE
JULI

----

⑭ JOSE
JULIO 2

SITE # 05-17-57-210
A.R.R. # 05-17-170
PROJECT AREA Lookout Thinning
SITE NAME Basque Carving Grov
SCALE None
DATE 10/26/79
DRAWN BY R. Ripple
T19N/R17E Sec. 26

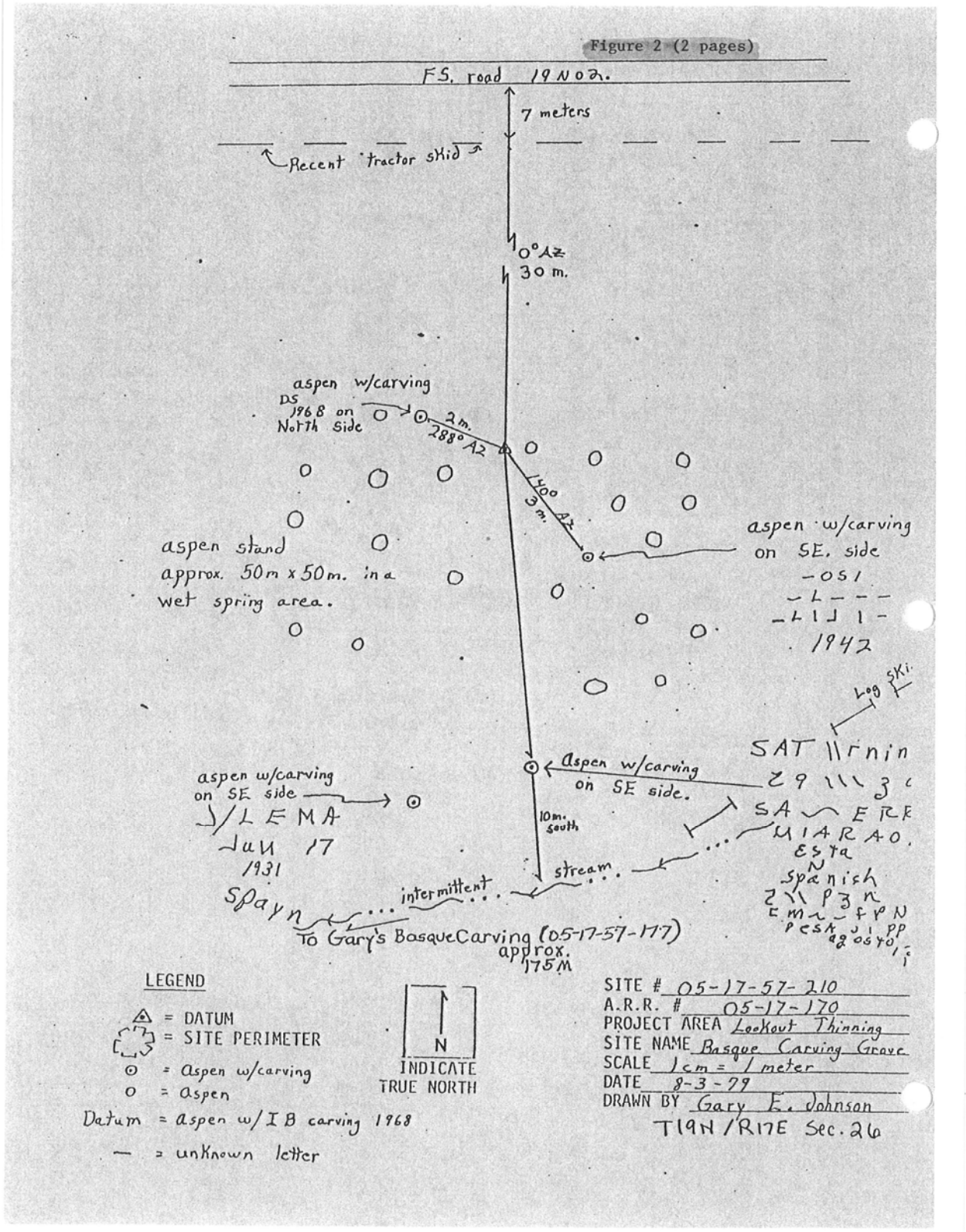


Figure 2 (2 pages)
F.S. road 19N02.
7 meters
Recent tractor skid
0° Az
30 m.
aspen w/carving
DS
1968 on
North side
2 m.
288° Az
1400
3 m.
aspen stand
approx. 50m x 50m. in a
wet spring area.
aspen w/carving
on SE. side
1942
aspen w/carving
on SE side.
aspen w/carving
on SE side
10m.
south
stream
intermittent
To Gary's BasqueCarving (05-17-57-177)
approx.
175M
LEGEND
= DATUM
= SITE PERIMETER
= Aspen w/carving
= Aspen
Datum = aspen w/IB carving 1968
— = unKnown letter
N
INDICATE
TRUE NORTH
SITE # 05-17-57-210
A.R.R. # 05-17-170
PROJECT AREA Lookout Thinning
SITE NAME Basque Carving Grove
SCALE 1cm = 1 meter
DATE 8-3-79
DRAWN BY Gary E. Johnson
T19N/R17E Sec. 26

As is the norm, each of the trees is identified by a small circle on the map, which in my methodology is superfluous. The reading of the several first names—Jose—is correct, as are the years, but only one last name—Ramirez—is correct, and "Jaleman" should be "J. Aleman." Again, the problem here consists basically of not knowing the spelling of Basque last names, for example, tree no.2 should be "Jose Pablo Zubia," the same for trees no. 4 and 12, all of them read differently by the recorder.

Again, elaborate mapping was part of the federal methodology and often each tree in the grove was numbered and identified on the hand-sketched map with little regard for the information—or lack of--it contained. My methodology suggests that field work should take precedence over tedious mapping of individual trees, especially when in the district in question thousands of unrecorded carvings remain in danger of disappearing. Even modestly speaking, a thousand recorded arborglyphs could add a page to the body of knowledge of western American history.

When dealing with real sheepherder artifacts, such as cabins and bread ovens, the feds did an excellent recording job. The following is an example of a hand-sketched drawing of an oven:

Figure 3 (Bread Oven, Jenkins Sheep Camp, Plumas NF, CA, 1991)

Figure 3 (1 page)

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

ARCHAEOLOGICAL SITE RECORD

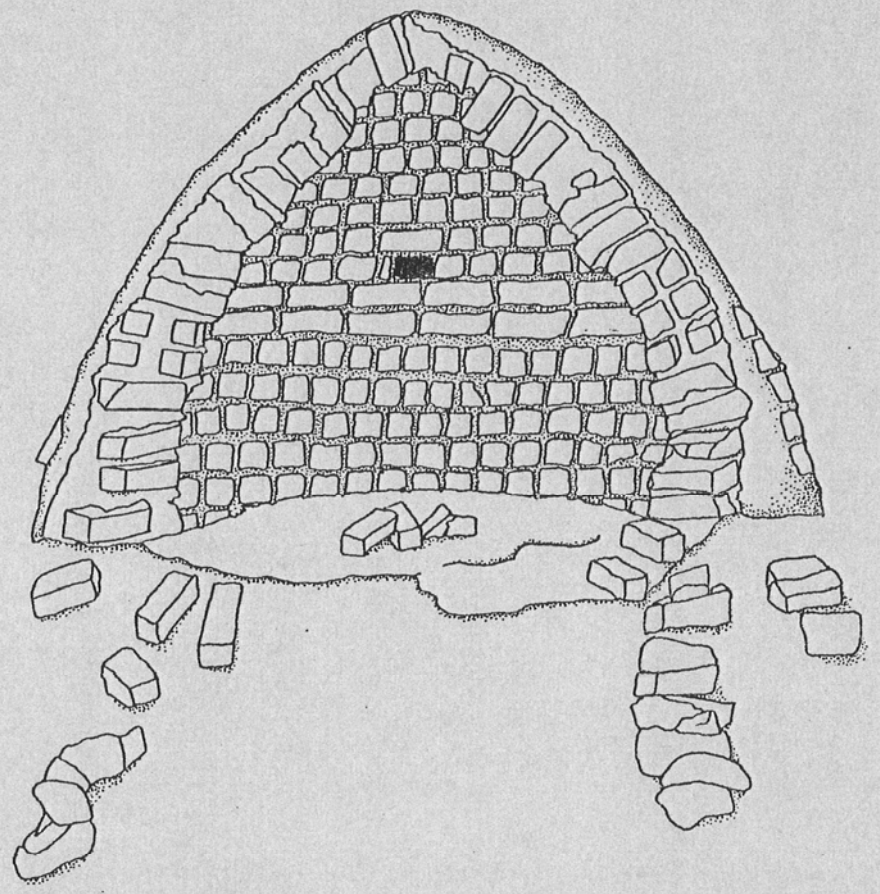
FEATURE SKETCH

Permanent Trinomial: CA-Plu-pending

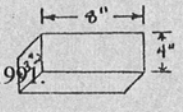
Temporary Number: N/A

Agency Designation: 05-11-51-742

Page 16 of 18



FEATURE E: BRICK OVEN
VIEW OF THE EAST SIDE



Basque Bread Oven, Jenkins Sheep Camp, Plumas National Forest, CA, Recorded 1991.

16-PAR'9

The site record included an oven, a nearby cabin, and two outhouses and it numbered seventeen pages total, including eight pages of descriptive text, six pages of sketches, and three maps.

The copies of federal recordings of tree carvings in my possession are limited only to Nevada and California. I have no BLM recordings, but I suppose that they are similar. Generally speaking—see earlier--I think I am right in assuming that federal districts in other western states have conducted less arborglyph research than California and Nevada. Idaho, with the largest Basque colony, started recording aspen carvings only a few years ago and the total number currently amounts to over 1,000 arborglyphs. Boise's Cenarrusa Center for Basque Studies in conjunction with the Basque Museum is building a database as well, generally based on the Mallea-Olaetxe design. In addition, in 2005, I video-recorded a few hundred arborglyphs for the archaeology office of Boise BLM.

5. Proposed Methodology

I have been recording arborglyphs since 1988, and during that time I gathered some 25,000 carvings, 13,000 of which form part of the database started in 1996. There is no doubt that the arborglyphs are pure historical documents, albeit extremely ephemeral. No one knows how many of them disappeared through natural or unnatural processes, but I would venture to say from 50 to 70 percent; more in some groves, less in others. Aspens are short-lived trees and their carvings last even less, therefore, it should be amply clear that, if we wait, we will lose primary documentation on basic historical questions, such as:

a) Presence of sheep on the mountain (which can be crucial to study environmental impact and other issues).
b) Full identity of the herders (some of whom do not appear in the U.S. Census)
c) The country/region/hometown of herder's origin.
d) Duration and location of sheepherding activities.
e) Human aspects of the herding experience: loneliness, acculturation, range information, and so much more.
f) Proportion of herders who remained in the US vs. those who returned to Europe.
g) Identity of the sheep owner, which connects the data to a local ranching company (another venue that the researcher can pursue fruitfully).

The current methodology, as shown above, is not directed to address most of these issues and is, consequently, historically handicapped. Furthermore, the approach is paper-dependent and time-consuming, which takes resources from the more urgent task of field work. Some paper trail is indeed needed for record-keeping, and a hand-sketched map of the site can be enlightening, but paperwork can be simply eliminated by cutting down the number of sites. For example, a clump of aspens containing fewer than ten trees containing very little usable information is sometimes considered a different site if the grove is separated from other aspens, or if it is across the creek from the main body of aspens. More sites mean extra paperwork.

The need for federal agencies to manage the arborglyphs must be balanced with known historical facts and sheepherder reality, according to which it makes more sense to insist on one site per drainage. The herder took his charges up the canyon in the spring and down the same canyon in the fall. Because often the sheep companies retained forest leases unchanged for many years, it makes sense to regard the whole drainage as a historical unit. Another consideration to keep in mind is that normally drainages divided the grazing leases in the high country, which is

why the *harri mutil* (stone structure) erected by sheepherders atop summits signifies a boundary marker between different sheep companies.

Sharynn Blood, BLM archaeologist in the Susanville District in California explained that for management purposes the federal agencies often needed "wiggle room" to get around sites. If we took the whole canyon and make one site of it, there is no room, for example, to send trucks or bulldozers through when needed.[27] Her concerns are logical, but I would argue that we are not dealing with typical archaeological sites but with trees, standing ones with data. The trees *are* the site therefore, as long as the bulldozer avoids them, the site is safe and machine operators will have room to maneuver.

If we are to record the arborglyphs systematically and more meaningfully, we have to appreciate them as historical documents rather than as artifacts. They provide new and primary information for the highly neglected history for sheepherding and ranching in the American West. Thus, recording them correctly and understanding their meaning becomes paramount. Finally, using the right tool for the research can make a difference down the road, and that tool is the video-camera.

In 1989, a grant from the Nevada State Historic Preservation Office allowed me to purchase a camcorder, and I have not looked back since. I discovered that video is not only the proper tool to record arborglyphs, but more economical and practical than paper to record as well as to disseminate data. There are tens of thousands of arborglyphs out there and if you follow the IMACS route, you will need a great deal more time to do the same work than someone else with a video-camera. In the summer of 1993 I spent a little over two weeks in the Tahoe National Forest (California) and with my video I recorded over 1,300 carvings. During the two seasons of 2005 and 2006 I recorded 2,500 carvings in the Mountain Warfare Training Center (MWTC) Marine Base near Bridgeport, California.

Let us talk about video's virtues. Video is more expeditious and infinitely more accurate than hand-sketching. Suppose you want to record a tree that says "Martin Orriaga 1906" and on the backside is a human figure. With a camera you can simply read it, walk with it to the other side and as you videotape the image you can add a comment such as "Orriaga probably carved this figure of a man, which perhaps is a self-portrait." How long did the whole exercise take? Not even a minute. Sketching it might take five to ten minutes, or more if the figure is a bit elaborate. Even when you are very efficient and an experienced illustrator, you may never match the accuracy of the video and the detail that a close-up image delivers. Video can show you the herder's original incision or cut and the expanded bark on either side of the cut, which can fool you into believing that the carver made two parallel cuts. But if you look closer, you can see the difference between the man-made carving and the tree-made one.

But you are not done yet: You still need to take a photograph of the carving, which is just one or two shots, while video takes hundreds of shots at different angles and close-ups. With today's technology, you can freeze video and capture from it as many stills as you want. Video contains both image and sound, which allows you to explain simultaneously what you are viewing on the tree. The still photo has no such capabilities; if the carving is not clear, the photo cannot clarify it for you as the video person can. He or she can spell each word and explain on-camera the parts that are readable and the parts that are not, so that you are able to record much more information.

There is simply no comparison. Video duplicates color and life; it conveys the herder's environment during the summer, the grasses, the shade of the trees, the faint rustle of the aspen leaves, the singing of the birds… None of this is possible with paper and still photography.

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Digital data can be disseminated easily and practically for free--which you can do with digital still pictures—but in addition, you can take the video clips of each tree or each arborglyph and make them part of a database. Video can be stored in a hard drive, a DVD, or emailed. One digital cassette costs under $3 and holds 1.5 hours of data. I often use two tapes or more a day that might hold the information on sixty or more trees that contain 100 or more carvings. To copy the contents of one cassette onto paper, you would need a huge ream of paper and a week's worth of labor. Finally, paper does not disseminate as easily or as economically.

Because the location of the trees is important for federal managers, UTM coordinates are needed. In the past, when I worked alone I did not carry a GPS, but I have devised a method that works in most cases. First I always start at the bottom of a canyon, that is, at the lowest point in elevation, thus replicating the movements of the sheepherder. When recording the first tree I videotape the datum and other salient physical attributes of the area. Next, I aim the video at tree no.2 and pointing on-camera with my index finger I say "Tree no.2 is that one, about 60 feet/20 meters in the westerly direction." And I follow the same procedure with every subsequent recording. When the next tree is not visible—which can happen—I simply take a rough estimate of the distance and the direction. I try to stay true to my methodology and zigzag the canyon as I record the trees in a constant upward direction.

Of course, none of this is necessary with GPS, which I intend to use in future research. We did not use GPS in some of the earlier arborglyph PIT Projects I attended, but we did during the 2003 PIT Project sponsored by the Humbold-Toiyabe NF in the Carson Iceberg Wilderness. In the following year, every carved tree that we recorded in Idaho's Boise National Forest was GPS'ed as well. The numbers were read on-camera and recorded on paper by the note-taker. Whenever possible, while recording I provide additional information from the data I had collected in other groves, or I add a comment with relevant details I know about the sheepherders, sheepherding, or the Basques and their culture. All of this is done on-camera, as the electronic eye documents the carving.

In keeping with traditional recording methods, I still take high-quality digital pictures of the carvings in case I want to enlarge them into posters, but this is not necessary, because today's digital cameras produce high-quality video. .

This project is so huge and time so short that it is imperative to adopt new and expeditious ways to conduct research. When I started my research in 1989 archaeologists told me that I should use black-and-white film, because its life is known to be over one hundred years, but the digital revolution has rendered that a non-issue. In the same manner video should revolutionize the old paper-based methodology of recording tree carvings. Can you imagine the cost of duplicating black-and-white photos?

The video methodology advocated here works in conjunction with a text-based database accompanied by high resolutions still photos. This approach minimizes paperwork and maximizes field time. When tree data is entered in the database it becomes "live" information, much more than a sheet of paper can ever be. Microsoft Access's database has fields and codes that cover every aspect of information gleaned from trees, and it can store maps, sketches, high-resolution color photos, and videos. It is a searchable database, ready to answer queries or deliver reports. You can do none of that on paper. However, for those who choose to continue with IMACS or DPR523 forms I have created a Supplement just for arborglyphs (see below).

6. Recommendations

Arborglyphs are as unique as they are numerous and they shed light on an aspect of ranching that history consistently ignores: the sheepherders. Through historical amnesia, we are in grave danger of losing perspective of the Old West, when sheep covered this land. Lest we forget, sheep were the trigger for the creation of the USFS. Sheep are nomads and spread across the immense empty expanses, purposely away from settlements and ranches. Few today suspect that beneath the military apparatus, the Department of Defense bases contain sheepherder history. A number of the military bases were erected on what for decades was sheep range. Take, for example, the US Marine Corps MWTC near Bridgeport, California, the only military base researched for arborglyphs so far. It is, according to a recently-published Marines brochure, *An Outdoor Archive of Sheepherder History*. The base boasts continuous history of Basque and sheep presence from the 1880s to the present, and it is all documented on the 2,500 aspen carvings recorded todate.[28]

Aspens are "talking trees" that speak for an unusual group of immigrants. Knowingly or not, through the carvings the Basques created a one-of-a-kind historic and artistic phenomenon; very probably there is nothing like it anywhere else in the world. Arborglyphs constitute a unique Americana, a precise databank, akin to petroglyphs, but infinitely more understandable. If trappers, pioneers, and cowboys had left carvings of their whereabouts, we could add an interesting new chapter to American history.

Here are some recommendations regarding the future research of this resource:

1. A compilation of all the carved words recorded so far would be very helpful for researchers or recorders who are not proficient in the culture and languages of the sheepherders (many of them carved in two or three different languages and some in four, not counting Latin).
2. A computer program that can decipher highly distorted carvings on scarred bark would be very desirable. Depending on the condition of individual groves, the number of extremely distorted carvings can number between 7 and 10 percent. Almost all of them are over eighty years old, which often are the most interesting ones as well because the further back we go in time the less information we have.
3. In the past the medium for recording artifacts and arborglyphs was paper and still photos, and currently the methodology remains largely the same. Migrating from paper to electronic methods is necessary if we want to save time and improve accessibility and ease of dissemination of data to scholars, students and the public at large.
4. More specifically, it is suggested that all data be stored in a database devised precisely for arborglyphs, as part of the Legacy Project (see above for further discussion).
5. When conducting field work, the recorder should GPS the carved aspen trees, in order to assist federal agencies in their management duties.
6. Every IMACS arborglyph site form that I have seen states that the grove is "not eligible" for the National Register. Though I understand the reasons for such a decision, denying the sheepherders a fair hearing seems unjustifiable. How can this nation conclude that one whole class of immigrants responsible for herding most of the sheep in the West for over a century, has not contributed to the development of this country, has done nothing significant, nothing worth remembering?

IMACS/DPR523 Supplement for Arborglyphs

(This is basically a check-off form for those who prefer to record on paper. For more details see, Mallea-Olaetxe, *Speaking Through the Aspens*, 180-184).

I. SITE SIZE:
[1] Large (over 100 inscriptions) [2] Medium (25-100) [3] Small (fewer than 25)

Number of groves in the site
Actual number of inscriptions
How many readable/understood
How many unreadable/partly understood
Number of textual messages
Number of graphics
Oldest date
Most recent date

II. CULTURAL IDENTITY:
[1] Basque (from France and Spain) [2] Spanish [3] Hispanic (Mexican, Chilean, Peruvian. etc.)
[4] Military
[5] American/Other

Language:
[1] Basque [2] Spanish [3] English [4] French [5] Other

III. TEXT-BASED HISTORIC THEMES:
(Provide number, counting initials):
Names:
Dates
Patriotic statements/Old Country memories
References to America/Americans
News on sheepherding
News on sheep bosses/wages
News on pasture/weather
Personal statement (loneliness, etc.)
Inter-personal matters among herders
Humor, swear words
The "goodbye" ritual
Female/erotic/sexual related messages:
Old Country fiancé
prostitutes

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IV. ART:

Self-portraits
Human figures
Nudes
Erotic/sexual figures
animal figures
symbols: stars, *lauburu* (sun symbol), cross
religion
Old Country home (farmhouse)
unidentified figures

V. OTHER SITE ATTRIBUTES:

sheep camp, cabins
corrals, old fences, fence wire
cans, nails, bottles
outdoor bread oven
harri mutil (stone structure or marker) in the vicinity
works by outstanding carver (identify)

VI. MANAGEMENT

Suggested trees to be curated:
Interpretative sign suggested: [yes/no]
Vandalism observed: [yes/no]

VII. SIGNIFICANCE OF THE SITE

[1] Extremely important [2] Important [3] Average (representative or redundant) [4] Poor (poor condition or integrity)

Explain:

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ENDNOTES

[1] The Chronicle of Higher Education (November 4, 1994), B3.
[2] See, "Do we really know what makes us healthy?" Cover Story in the *New York Times Magazine* (September 16, 2007): 52-80.
[3] Quoted by Luc Sante in "The Way We Live Now: Reaching For It" in The *New York Times Magazine* (November 11, 2007): 23-26.
[4] See, *The Historiography of Latin America: A Guide to Historical Writing, 1500-1800* (Metuchen, N.J.: The Scarecrow Press, Inc., 1975).
[5] *The Race Beat: The Press, the Civil Rights Struggle, and the Awakening of a Nation* (Vintage Books, 2007). PBS interview with the authors, May, 2007.
[6] (Boston: Little Brown and Company, 1993). Throughout its 500 pages Takaki offers sample after sample of discrimination and neglect for suffered by minorities, and even pure hatred by some groups.
[7] Words of Jess Arriaga, a retired sheepherder from Reno, Nevada, during a 1992 televised interview.
[8] Robert Glass Cleland, *Cattle on a Thousand Hills, 1850-1880* (San Marino, CA: Huntington Library, 1964), 140 ff.
[9] Clel Georgetta, Golden Fleece in Nevada, (Reno, Nevada: Venture Publishing Co., Ltd., 1972), 561.
10. The so-called Omnibus Law, a 1950 Public Law 587, and Public Law 307, 1952.
[11] Private email, December 2007; check the website <www.witnesstrees.org>
[12] *Basque Tree Carvings: Legacy in Nevada*, Video (Reno: UNR Instructional Media Services, 1992).
[13] http://www.google.com/search?sourceid=navclient&aq=t&ie=UTF-8&rls=GGIC,GGIC:2006-49,GGIC:en&q=Lewis+and+Clark+carve+trees
[14] J. Mallea-Olaetxe, *Speaking Through the Aspens: Basque Tree Carvings in California and Nevada* (Reno & Las Vegas: University of Nevada Press, 2000).
[15] James Dekorne, *Aspen Art in the New Mexico Highlands* (Santa Fe: Museum of New Mexico Press, 1970).
[16] Richard Lane, "Basque Tree Carvings," *Northeastern Nevada Historical Society Quarterly,* I, no. 3 (1971): 1-7.
[17] For more details, see Mallea-Olaetxe, 3-5.
[18] Ibid, 16, 29-30; see, James B. Snyder with Robert W. Barrett and James B Murphy, Jr., "Wilderness Historic Resource Survey: 1989 Season Report," *Studies in Yosemite History*, No. 2 (Yosemite National Park, CA: Yosemite Research Library, 1990).
[19] Information obtained via several telephone conversations, December 2007.
[20] If you go to the Web and type "Utah Basque inscriptions" you will get several sites.
[21] See it at shttp://web.ncf.ca/jim/utah/signs/index.html
[22] Rikard Andersson, "Historical Land-Use Information from Culturally Modified Trees," Doctoral Thesis No 2005:61 (Umea, Sweden: Acta Universitatis Agriculturae Sueciae, 2005), and personal emails.
[23] Private communication with archaeologist Michael Baldrica of Tahoe N.F.
[24] http://www.anthro.utah.edu/imacs.html

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[25] Private email, 3 December, 2007. For more information on DPR523, go to the official site http://ohp.parks.ca.gov/?page_id=1069; it is clear that these forms would benefit from an appendix for arborglyphs.
[26] Michael Baldrica, personal communication, December 2007.
[27] Private communication, December 2007.
[28] Mountain Warfare Training Center Marine Base: *An Outdoor Archive of Sheepherder History* (Bridgeport, California, 2007).